

MEDICAL TIMES

Journal for the Family Physician

September, 1960

LANGUAGE BEHAVIOR OF
MENTALLY RETARDED CHILDREN
CORONARY ARTERY DISEASE
INCISIONAL HERNIA



Steven Dohanos

Librium and the 66 tranquilizers

The era of tranquilizers that preceded Librium therapy saw a long succession of drugs—sixty-six by the latest count. And yet, today Librium is considered by many clinicians as the successor to this entire group. The reasons? The physician can manage *more patients* and control a *wider area* of anxiety-linked symptoms with Librium than with any tranquilizer or group of tranquilizers. Librium is the biggest step yet toward "pure" anxiety relief as distinct from central sedative or hypnotic action.

Consult literature and dosage information, available on request, before prescribing.

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in stride ...**



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vitamin B ₁₂ activity	2 micrograms
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2177848

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ENCOURAGING NEWS IN ANGINAL THERAPY

*Reporting on extensive clinical trial of ISORDIL,
a group of important investigators found
"impressive improvement in 67% of patients . . . ,"
favorable response in a total of 75%.*

1. Fisch, S., Boyle, A., Sperber, R., and DeGraff, A. C.

In their thoroughly documented report on 60 angina patients studied by open clinical trial, Fisch, Boyle, Sperber, and DeGraff found improvement in 75% of patients; 18% did not respond. Minor side reactions (mostly headache) hindered evaluation in only 7% of the patients treated.

Average Dosage Low, but Individualization Required

Average effective dose of ISORDIL was 10 mg. q.i.d.; 26% of patients received higher doses, 16% lower doses. Of all patients, 87% received and tolerated 5 to 15 mg. q.i.d.

Headache Commonest Side Effect, Easily Relieved

Although headache occurred initially in 27% of patients studied, it caused discontinuance of ISORDIL in only 4 patients. Continued therapy, adjustment of dosage, or use of acetylsalicylic acid relieved headache in all other cases.

Other Studies Confirm Results, Establish Additional Benefits

Maintenance of active coronary vasodilation by ISORDIL, as shown by Leslie,² Albert³ and Fremont,⁴ virtually eliminates periods of unprotection. Benefits are apparent as early as 15 minutes, persist for at least 4 hours. No lag in onset . . . important during early morning and postprandial stress.

References: 1. Fisch, S., Boyle, A., Sperber, R., and DeGraff, A.C.: Presented at the annual meeting of the American Therapeutic Society, Miami Beach, Florida, June 10, 1960. To be published. 2. Leslie, R.: Submitted for publication. 3. Albert, A.: In Manuscript. 4. Fremont, R.E.: To be published.

IVES / **ISORDIL®**
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BPA

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THIS MONTH'S COVER ...

Physician, heal thyself — or at least cut out several thousand calories a day. This could be the thought running through the mind of this plump practitioner — portrayed here by Stevan Dohanos — as he checks his blood pressure, something he's been meaning to do for quite a while. Let's hope the reading isn't as high as he feared and that he launches a successful assault on his waistline. For more about our cover artists, see page 218a.

BUFFERIN[®] DOES EVERY- THING PLAIN ASPIRIN CAN DO, AND DOES IT FASTER¹ WITH HIGHER SALICYLATE BLOOD LEVELS² AND WITH FAR FEWER GASTRIC SIDE EFFECTS ^{1,2,3}

1

Paul, W. D.; Dryer, R. L., and Routh,
J.L.: J. Am. Pharm. Assn.
(Scient. Ed.) 39:21 (Jan.) 1950.

2

Fremont-Smith, P.:
J. Am. Med. Assn. 158:386
(June 4) 1955.

3

Tebrock, H. E.: Ind. Med. & Surg.
20:480-482, 1951.

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more
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Supplied: Bottles of 100 and 1000.

References: 1. Tandowsky, R. M.: Personal communication.
2. Parsons, W. B.: *Curr. Therapeut. Res.* 2:137 (May) 1960.
3. Thompson, C. E.: Personal communication. 4. Biben, L. H.; Kurstin, W., and Protas, M.: Personal communication.
5. Hobbs, T. G.: Personal communication.

*PAT. PENDING

Walker

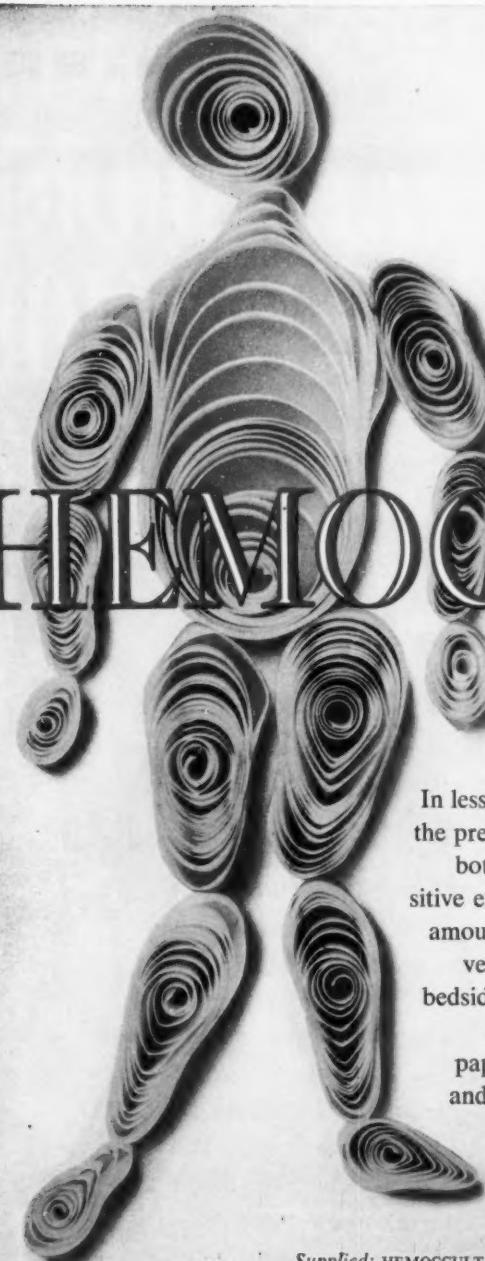
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Bronchodilator action of oral ELIXOPHYLLIN®

As shown by clinical observations:

Acute asthmatic attacks were terminated in 10 to 30 minutes after a single oral dose in 91 of 107 patients (85%).^{1,2,3,4}

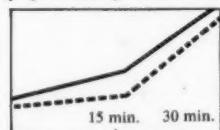
Chronic asthmatic symptoms were also well controlled and frequency of attacks markedly reduced in most patients by dosage every 8 hours.^{1,3,4}

As shown by pulmonary function tests:

Spirometric studies in acetylcholine-induced asthma showed oral Elixophyllin equivalent in therapeutic effects to intravenous aminophylline (500 mg.) and comparable both prophylactically and therapeutically to

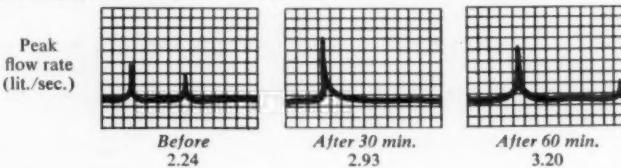
subcutaneous epinephrine.⁵

Further pulmonary function studies after doses of 60 or 75 cc. Elixophyllin demonstrated increases in vital capacity and maximum breathing capacity as shown below:



Vital capacity increase of 30.6% in 30 minutes—average of 69 patients.^{1,5,6}
Maximum breathing capacity increase of 25.7% in 30 minutes—average of 49 patients.^{5,6}

Improved cough efficiency as shown in a patient with bronchial asthma following Elixophyllin dosage of 75 cc.:⁷



Volume exhaled (liters) increased from 0.076 to 0.391 after 30 minutes, and to 0.805 after 60 minutes.

In a series of 25 patients receiving a single dose of 60 or 75 cc. Elixophyllin, the efficiency of the cough response was markedly enhanced, with a mean increase of 33% in rate of air flow and over 100% in the volume of air expelled on maximal cough.⁷

For the bronchospasm of acute and chronic asthma, emphysema, and bronchitis. Elixophyllin provides prompt, sustained relief without undesirable effects of other medications such as: sympathomimetic stimulation, barbiturate depression, or suppression of adrenal function. This oral theophylline therapy is virtually free from gastric side effects.

DOSAGE: For acute attacks, a single dose of 75 cc. for adults, or 0.5 cc. per lb. body weight for children.

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Each tablespoonful (15 cc.) contains: theophylline 80 mg. (equivalent to 100 mg. aminophylline) in a special hydroalcoholic vehicle assuring rapid, dependable absorption (alcohol 20%).

1. Spielman, D.: Ann. Allergy 15:270, 1957. 2. Schluger, J. et al.: Am. J. Med. Sci. 234:28, 1957. 3. Kessler, F.: Connecticut St. M. J. 21:205, 1957. 4. Greenbaum, J.: Ann. Allergy 16:312, 1958. 5. Frank, D. E.: Antibiotic M. 6:338, 1959. 6. MacLaren, W. R.: To be published. 7. Bickerman, H. A. et al.: Sci. Exh., A.M.A. Convention, June 1959.

Sherman Laboratories

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Therapeutic Reference

The following index contains all the products advertised in this issue. Each product has been listed under the heading describing its major function. By referring to the pages listed, the reader can obtain more information. All of the products listed are registered trademarks, except those with an asterisk (*).

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- Alurate Elixir 24a
- Chlor-Trimeton 39a
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*Newcomer, V. D., et al.: A.M.A. J. Dis. Child. 99:585, 1960.

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1½ months
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A black and white photograph of a woman with dark hair, wearing a dark dress. She is looking down at a glass of water she is holding in her hands. The lighting is dramatic, with strong highlights and shadows.

she calls it "nervous indigestion"

diagnosis: a wrought-up patient with a functional gastro-intestinal disorder compounded by inadequate digestion. **treatment:** reassurance first, then medication to relieve the gastric symptoms, calm the emotions, and enhance the digestive process. **prescription:** new Donnazyme—providing the multiple actions of widely accepted Donnatal® and Entozyme®—two tablets t.i.d., or as necessary.

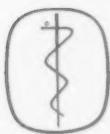
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ANTISPASMODIC - SEDATIVE - DIGESTANT

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Aquasol A Capsules 86a, 87a

Beminal Forte 54a

Eldec Kapseals 168a, 169a

Geval 116a

Gevrestin 130a, 150a

Natabec 75a

Vi-Sol Chewable Tablets 42a

Weight Control

Appetrol 64a

Baramedex 196a, 204a, 208a, 210a

Prelu-Vite 177a

Syndrox 192a



A "fitting" concern for the new mother ...time



A new baby in the family, whether the first or the fourth, makes it necessary for the whole family, particularly the mother, to adjust. For this, time is needed.

Your postpartum patient looks to you for advice on the best way to plan ahead.

Security—two ways

She experiences special physical comfort when you prescribe either the regular RAMSES® Diaphragm or the new RAMSES BENDEX®, an arc-ing type diaphragm.

The regular RAMSES Diaphragm, suitable for most women, is made of pure gum rubber, with a dome that is unusually light and velvet smooth. The rim, encased in soft rubber, is flexible in all planes permitting complete freedom of motion.

For those women who prefer or require an arc-ing type diaphragm, the new RAMSES BENDEX embodies all of the superior features of the conventional RAMSES Diaphragm, *together with the very best hinge mechanism contained in any arc-ing diaphragm.* It thus affords lateral flexibility to supply the proper degree of spring tension without discomfort.

For added protection— RAMSES "10-Hour" Vaginal Jelly*

To give your patient the full protection of the diaphragm and jelly method—at least 98 per cent effective—RAMSES Jelly is uniquely suited for use with either type of RAMSES Diaphragm. It is not static, but flows freely over the diaphragm rim to add lubrication and form a sperm-tight seal maintained for *ten full hours.* It is nonirritating and nontoxic.

You can now prescribe a complete unit with either type of diaphragm. RAMSES "TUK-A-WAY"® Kit #701 contains the regular RAMSES Diaphragm with Introducer and a 3-ounce tube of RAMSES Jelly; the #703 Kit contains the RAMSES BENDEX Diaphragm and Jelly. Each in attractive zippered case. At all prescription pharmacies.

Reference: 1. Tietze, C.: Proceedings, Third International Conference Planned Parenthood, 1953.

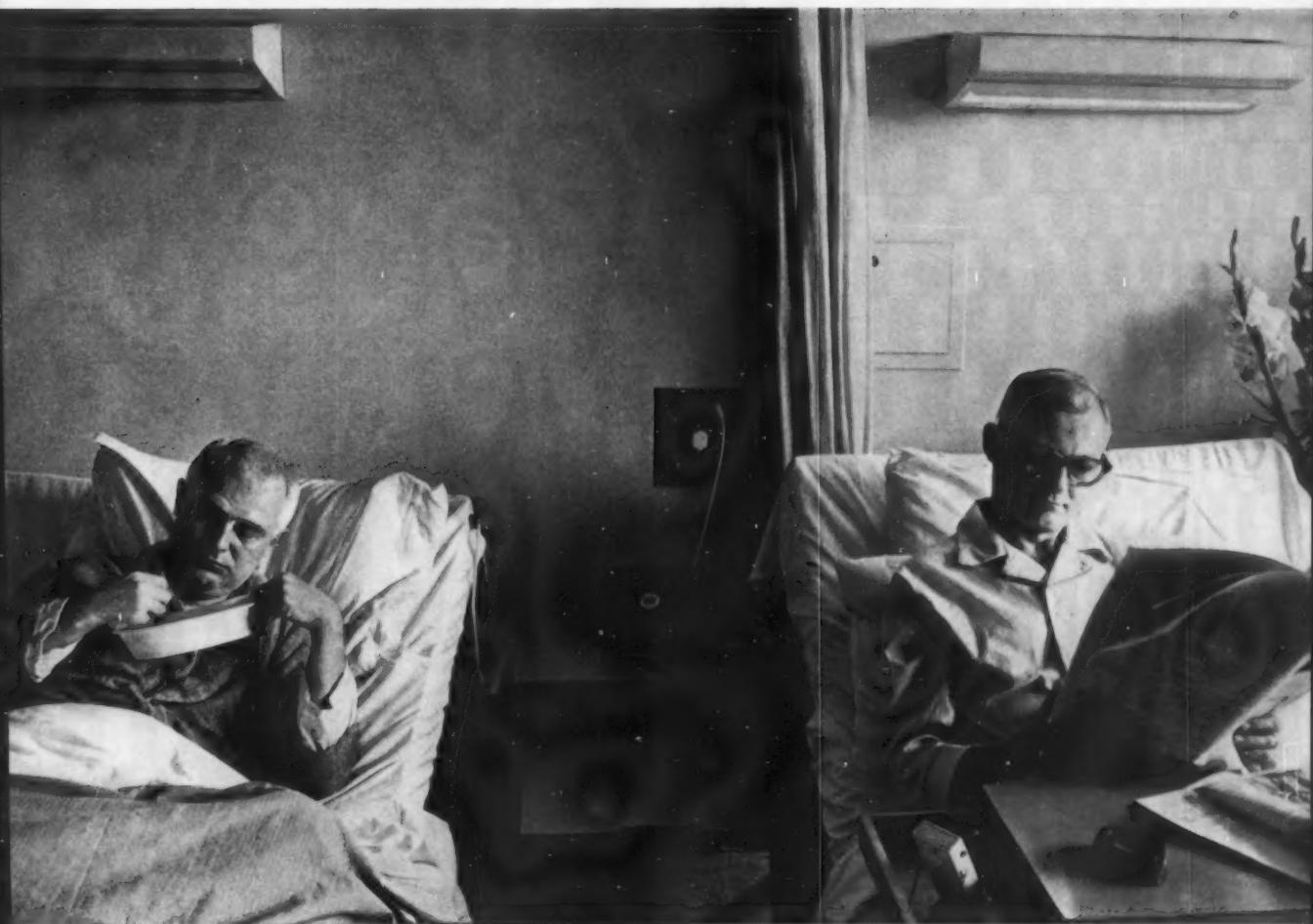
RAMSES, BENDEX, and "TUK-A-WAY" are registered trademarks of Julius Schmid, Inc.

*Active agent, dodecylenglycol monolaurate 5%, in a base of long-lasting barrier effectiveness.

Julius Schmid, Inc.
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**Ramses® Diaphragm
and Jelly**

a pair of postoperative patients:



both are free of pain—but only one is on

DILAUDID®

(Dihydromorphinone HCl)

swift, sure analgesia normally unmarred by nausea and vomiting

Before and after surgery, DILAUDID provides unexcelled analgesia. Its high therapeutic ratio is commonly reflected by lack of nausea and vomiting—and marked freedom from other side-effects such as dizziness and somnolence. DILAUDID thus facilitates early ambulation and simplifies postoperative management.

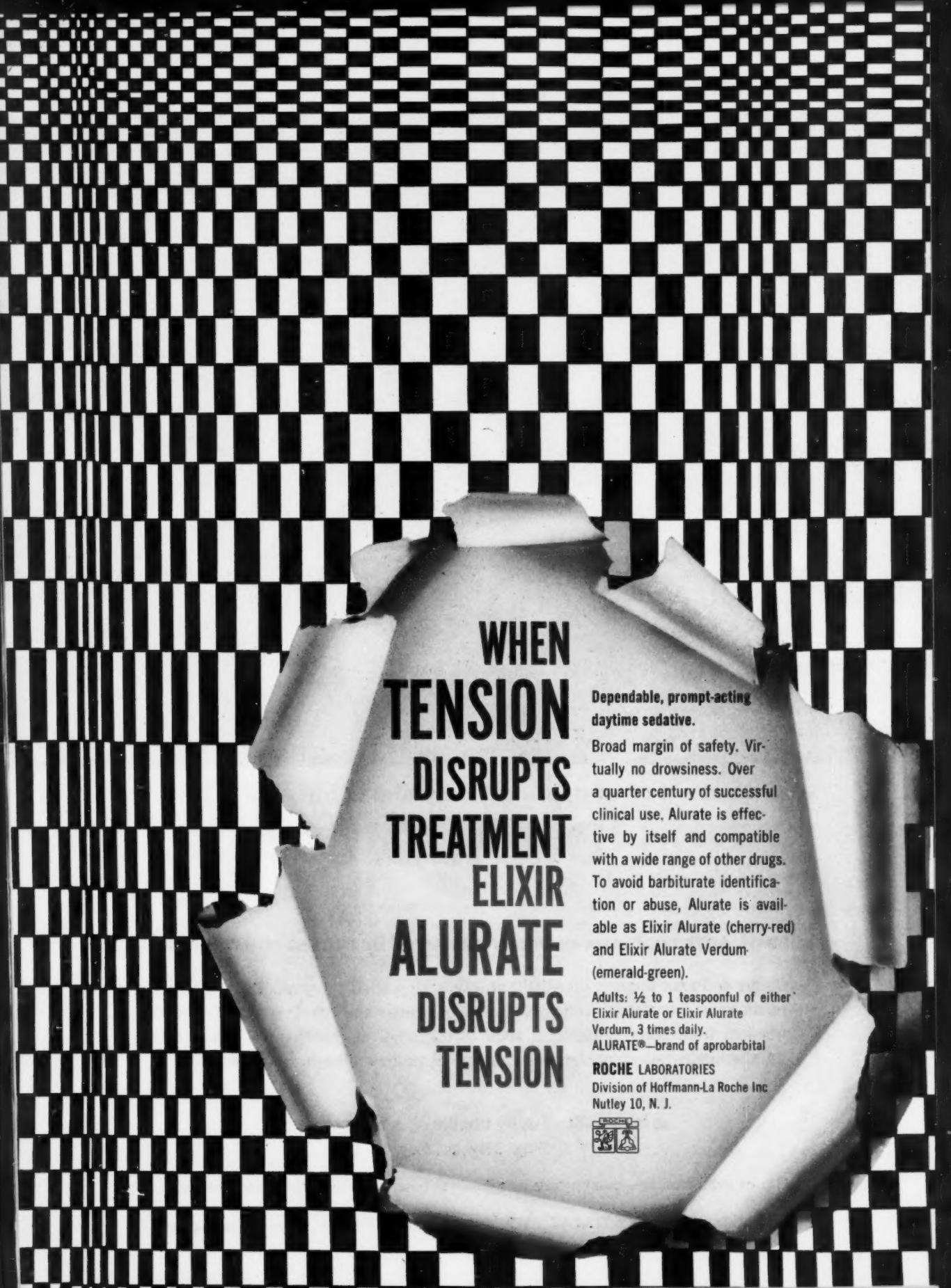
▲ by mouth ▲ by needle ▲ by rectum

2 mg., 3 mg., and 4 mg.

May be habit forming—usual precautions should be observed as with other opiate analgesics.



KNOLL PHARMACEUTICAL COMPANY • ORANGE, NEW JERSEY



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TENSION
DISRUPTS
TREATMENT
ELIXIR
ALURATE
DISRUPTS
TENSION**

Dependable, prompt-acting daytime sedative.

Broad margin of safety. Virtually no drowsiness. Over a quarter century of successful clinical use, Alurate is effective by itself and compatible with a wide range of other drugs. To avoid barbiturate identification or abuse, Alurate is available as Elixir Alurate (cherry-red) and Elixir Alurate Verdum (emerald-green).

Adults: $\frac{1}{2}$ to 1 teaspoonful of either Elixir Alurate or Elixir Alurate Verdum, 3 times daily.

ALURATE®—brand of aprobarbital

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Division of Hoffmann-La Roche Inc
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Off the Record...

Contributions describing actual and unusual happenings in your practice are welcome. For obvious reasons only your initials will be published. An imported sculptelite figurine . . . an amusing caricature of a physician . . . will be sent in appreciation for each accepted contribution.

Slips of the Pen

Most dictated reports are fairly accurate representations of what the original dictation intended. But occasionally the stenographer suffers a lapse and the result is ludicrous, as in the two following cases:

Dictated: Patient received 500 cc of whole blood.

Report: Patient received 500 cc of whale blood.

Dictated: The liver was palpated three fingerbreadths below the right costal margin.

Report: The lover was palpated three fingerbreadths below the right costal margin.

M.C., M.D.
New York, N.Y.

It's a Free Country, Ain't it?

My office is in a congested area, and I consider myself lucky to have a driveway where I can park my car in during office hours. In order to keep the area clear, three big signs adorn the garage door, pleading to keep the drive clear.

On the whole, I had very little trouble until a few months ago when a car of very long dimension, bearing an "M.D." license plate, began to block most of the driveway. Since my driveway faces on a narrow side street (the other side of the street being always jammed with cars), pulling my car out became a very

difficult maneuver. At first I tried to overlook the thoughtless blocking of my drive, but after a few days of it I left a polite note on his windshield explaining the hardship he was causing me. This action brought relief for a few days. Then he was back again.

One day my wife caught him red-handed, parking so as to cut off three-quarters of the entrance to my driveway. She politely asked him to pull away.

He waxed indignant, and said he'd left enough space for me to get in and out. She did not agree, of course. He rejoined that he didn't care about her opinion, that getting a parking space was hard for him and that we should extend him the courtesy of a space for a few hours. Furthermore, he went on, he would not argue with her about it but would come directly to me.

When my wife retorted that I might get pretty sore, he drew himself up to his full height and snorted, "I'll move my car, all right. And even if you plead with me to stay, I'll pull out. I don't have to put up with this kind of thing."

Sometime later I had an opportunity to follow this doctor (I recognized his car), and found that his office was about three blocks from mine and that he had a private driveway of his own!

As they say, it takes all kinds.

Anonymous
Concluded on page 29a

in edema or

- more doctors are prescribing —
- more patients are receiving the benefits of —
- more clinical evidence exists for —



in congestive failure



in hypertension



in premenstrual edema

"Chlorothiazide was given to 16 patients for a total of 295 patient-treatment days." "Chlorothiazide is a safe, oral diuretic with a clinical effect equal to or greater than a parenteral mercurial." Harvey, S. D. and DeGraff, A. C.: N. Y. State J. Med., 59:1769, (May 1) 1959.

DOSAGE: Edema—One or two 500 mg. tablets DIURIL once or twice a day. Hypertension—One 250 mg. tablet DIURIL twice a day to one 500 mg. tablet DIURIL three times a day.

"... our program has been one of polypharmacy in which we attempt to deplete body sodium with chlorothiazide. This drug is continued indefinitely as background medication for all antihypertensive drugs." Moyer, J. H.: Am. J. Cardiology, 3:199, (Feb.) 1959.

"Chlorothiazide is an excellent agent for relief of swelling and breast soreness associated with the premenstrual tension syndrome, since all patients [50] with these complaints were completely relieved." Keyes, J. W. and Berlacher, F. J.: J.A.M.A., 169:109, (Jan. 10) 1959.

SUPPLIED: 250 mg. and 500 mg. scored tablets DIURIL (chlorothiazide) in bottles of 100 and 1,000. DIURIL is a trademark of Merck & Co., Inc. Additional information is available to the physician on request.

hypertension

DIURIL® (CHLOROTHIAZIDE)

than for all other diuretic-antihypertensives combined!



in edema of pregnancy



in cirrhosis with ascites



in renal edema

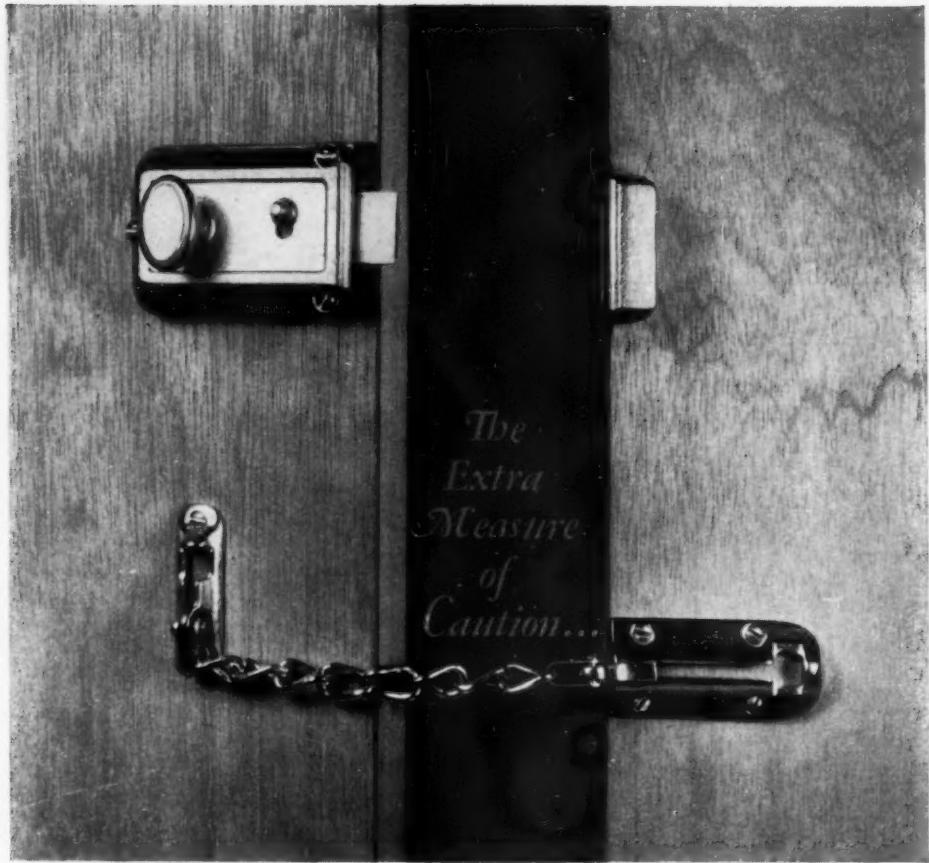
"One hundred patients were treated with oral chlorothiazide." "In the presence of clinically detectable edema, the agent was universally effective." "Chlorothiazide is at present the most effective oral diuretic in pregnancy." Landesman, R., Ollstein, R. N. and Quinton, E. J.: N. Y. State J. Med., 59:66, (Jan. 1) 1959.

"All three of the patients with Laennec's cirrhosis, ascites and edema had a favorable response, with a mean weight loss of 8 lbs., during the five-day treatment period with a slight decrease in edema." Castle, C. N., Conrad, J. K. and Hecht, H. H.: Arch. Int. Med., 103:415, (March) 1959.

"In a study of 10 patients with the nephrotic syndrome associated with various types of renal disease, orally administered chlorothiazide was a successful, and sometimes dramatic, diuretic agent." Burch, G. E. and White, M. A., Jr.: Arch. Int. Med., 103:369, (March) 1959.



MERCK SHARP & DOHME
Division of Merck & Co., Inc., Philadelphia 1, Pa.



Tetracycline now combined with the new, more active antifungal antibiotic—Fungizone—for broad spectrum therapy/antimonilial prophylaxis

A new advance in broad spectrum antibiotic therapy, MYSTECLIN-F provides all the well-known benefits of tetracycline and also contains the new, clinically proved antifungal antibiotic, Fungizone. This Squibb-developed antibiotic, which is unusually free of side effects on oral administration when given in oral prophylactic doses, has substantially greater *in vitro* activity than nystatin against strains of *Candida* (*Monilia*) *albicans*.

Thus, in addition to providing highly effective broad spectrum therapy, MYSTECLIN-F prevents the monilial overgrowth in the gastrointestinal tract so commonly associated

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New Mysteclin-F provides this added antifungal protection at little increased cost to your patients over ordinary tetracycline preparations.

Available as: MYSTECLIN-F CAPSULES (250 mg./50 mg.) MYSTECLIN-F HALF STRENGTH CAPSULES (125 mg./25 mg.) MYSTECLIN-F FOR SYRUP (125 mg./25 mg. per 5 cc.) MYSTECLIN-F FOR AQUEOUS DROPS (100 mg./20 mg. per cc.)

For complete information, consult package insert or write to Professional Service Department, Squibb, 745 Fifth Avenue, N. Y. 22, N. Y.

NEW

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Squibb Phosphate-Potentiated Tetracycline (SUMYCIN) plus Amphotericin B (FUNGIZONE)

*MYSTECLIN®, SUMYCIN® AND FUNGIZONE® ARE SQUIBB TRADEMARKS.

SQUIBB  *Squibb Quality—the Priceless Ingredient*

Off the Record...

Concluded from page 25a

Sure Kills a Thirst

An 18-year-old Indian girl from a mountain village came into my office complaining of vaginal itching, burning and discharge. Examination revealed a trichomonas vaginitis. I gave her instructions for taking a vinegar douche daily, using one half cup of white vinegar to two quarts of hot water, and prescribed additional medication. I advised her to return in two weeks.

When she was re-examined I observed that she had not improved as much as I had anticipated, and I asked her if she had been taking the daily douches.

She replied, "Yes, doctor, but I have trouble drinking all that water and vinegar."

H.W., M.D.
Madera, Calif.

What, No Coverage?

The barber had just finished cutting the hair of a teen-age boy, hospitalized for the first time in his life.

When the barber requested the price of the haircut, the boy innocently replied, "Please put it on my Blue Cross."

J.J.R., M.D.
Brooklyn, N. Y.

Rash Statement

The following incident occurred in my office one busy morning, at a time when I had a raspy laryngitis which made clear speech difficult. Many things I said came out sounding rather garbled.

I was seated at my desk and was questioning, as well as I could, a lady in the chair to my left. The door from the waiting room opened, and my efficient nurse and a second female patient briskly and apologetically entered, passing quickly toward the adjoining treatment room.

I recognized the young lady as a patient I had seen for the first time a few days before, and I wanted to make a friendly gesture or at least to let her know I was not purposely ignoring her.

I smiled and said, "Honey, does your rash itch?"

Only it didn't come out that way. My raspy laryngitis turned the word "rash" into a shorter one, and my question sounded like an inquiry about the condition of her buttocks.

I hastened to clear my throat. I said, "Does your rash itch? Rash . . . R-A-S-H . . ."

She shyly smiled. "Oh, my rash . . . well, not much."

She is still my patient and our rapport, I'm glad to say, is excellent.

B.P.G., M.D.
Lincolnton, N. C.

Crummy Lunch

It had been a busy day. Between house calls, hospital rounds and office hours, I hadn't eaten a thing since early morning. Time for lunch had long passed.

Office hours were drawing to close when, in between patients, I asked my aide if she had a mint, candy bar, or anything edible. She produced a small packet of soda crackers.

I popped a couple into my mouth and began to crunch them. My next patient came in and quietly sat down next to my desk. I tried desperately to swallow the dry crackers, but I couldn't. My mouth was so full I couldn't talk.

The patient, a woman, stared at me, a slightly worried expression on her face. Still unable to swallow the crackers, I made a dash for the wash room and gulped a glass of water.

Upon my return I explained my difficulty to the patient. But I had the feeling, throughout my examination of her, that she looked at me rather quizzically.

Anonymous

RESPONSE IN
PERIPHERAL VASCULAR DISEASE

CASE HISTORY[†]



White male, age 57. Ischemic ulcers on dorsum and second toe of left foot, arteriosclerotic heart disease with congestive failure, and pneumonitis. General condition improved with bed rest, salt restriction, digitalis and diuretics. No improvement of ulcers despite conventional peripheral vasodilators. Amputation of foot was contemplated.

With CYCLOSPASMOL, 200 mg. q.i.d., marked improvement in ulcer crater with appearance of granulation tissue within 3 weeks. No effect on toe, which was amputated. Continued therapy with CYCLOSPASMOL (and prophylactic antibiotic dressings) produced smooth healing.

[†]Report and photographs courtesy I.M. Alpher, M.D., Washington, D.C.

CYCLOSPASMOL®



Cyclandelate, Ives-Cameron

- Effective orally
- Musculotropic¹—acts directly on the arterial wall to increase blood flow
- Indicated in both occlusive and vasospastic disorders
- Increases walking tolerance
- Relieves pain in extremities
- Promotes healing of leg ulcers
- Restores color and warmth to extremities

Literature and professional samples available on request.

1. Council on Drugs, New and Nonofficial Drugs, J.A.M.A. 170:1670 (Aug. 1) 1959.

*Trademark



IVES-CAMERON COMPANY
New York 16, N.Y.

Healed ulcer area 18 months after initiation of therapy.





Diagnosis, Please!

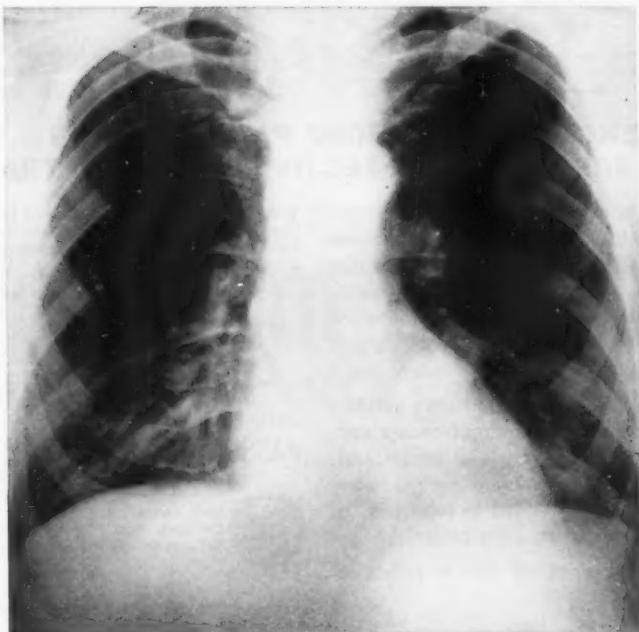
Edited by Maxwell H. Poppel, M.D., F.A.C.R., Professor of Radiology,
New York University College of Medicine
and Director of Radiology, Bellevue Hospital Center

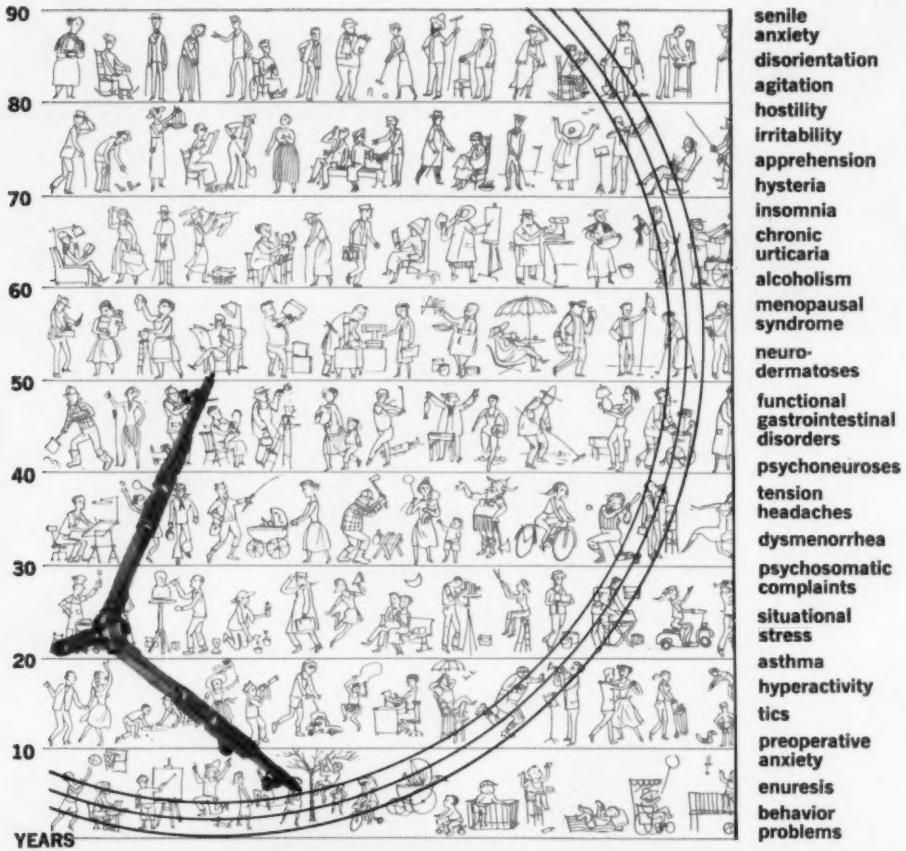
Forty-eight-year-old male. Chief Complaints: Difficulty in swallowing. Feeling of tightness in chest.

Which is your diagnosis?

- 1. Mitral Valvular Disease 3. Pericardial Effusion
- 2. Achalasia 4. Cyst of Pericardium

(Answer on page 212a)





ATARAX ENCOMPASSES MORE PATIENT NEEDS...LETS YOU CHART A SAFER, MORE EFFECTIVE COURSE TO TRANQUILITY

ATARAX has a wide range of flexibility . . . from mild adult tensions and anxieties to full-blown alcoholic episodes . . . from the behavior disorders of childhood to the emotional problems of old age. Why? Because it gives you maximum adaptability of dosage . . . works quickly and predictably . . . is unsurpassed in safety.

ATARAX offers extra pharmacologic actions especially useful in certain troublesome conditions. It is antihistaminic and mildly antiarrhythmic, does not stimulate gastric secretions. Hence it is well suited to the needs of your allergic, cardiac and ulcer patients.

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Dosage: Adults, one 25 mg. tablet, or one tbsp. Syrup q.i.d. Children, 3-6 years, one 10 mg. tablet or one tsp. Syrup t.i.d.; over 6 years, two 10 mg. tablets or two tsp. Syrup t.i.d.

Supplied: Tiny 10 mg., 25 mg., and 100 mg. tablets, bottles of 100. Syrup, pint bottles. Parenteral Solution: 25 mg./cc. in 10 cc. multiple-dose vials; 50 mg./cc. in 2 cc. ampules. Prescription only.

Complete bibliography available on request.

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Division, Chas. Pfizer & Co., Inc.
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VITERRA® for vitamin-mineral supplementation

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A superior vanishing cream
base that approximates natural
skin oils—**Veriderm***
combined with **Medrol†**

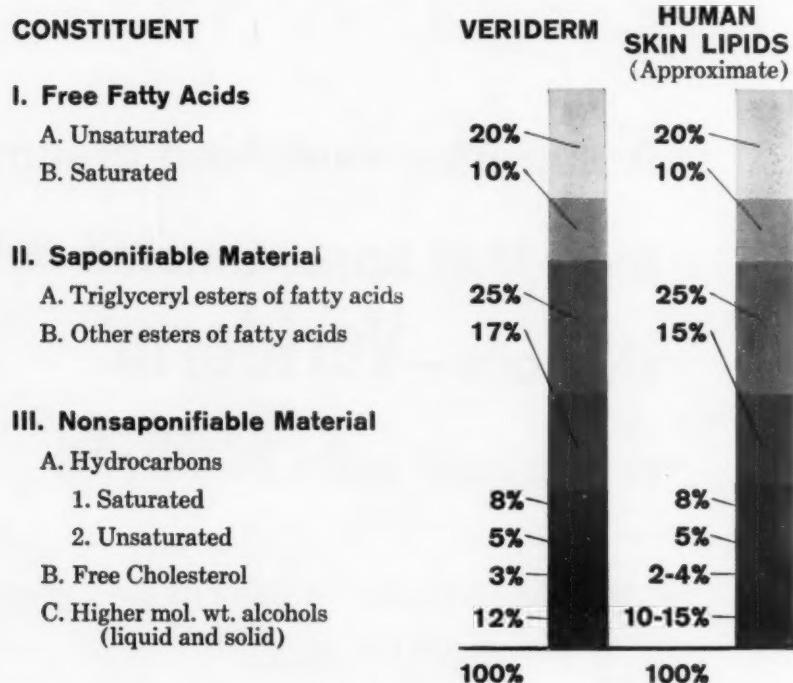
 the corticosteroid that hits the disease,
but spares the patient

Veriderm Medrol

Upjohn

*TRADEMARK
†TRADEMARK, REG. U. S. PAT. OFF.

Veriderm, an original development from The Upjohn Research Laboratories, approximates qualitatively and quantitatively the oily constituents found in normal human skin.



Veriderm

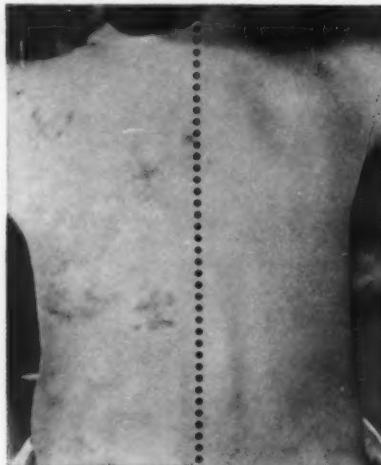
- Designed to enhance steroid dispersion and effectiveness
- Corrects dry skin conditions associated with many dermatoses
- Less greasy than an ointment
- Less drying than a lotion

In Veriderm Medrol, the outstanding anti-inflammatory agent Medrol (methylprednisolone acetate) is available for the first time for topical corticotherapy. The great potency of Medrol (5 times that of hydrocortisone) and speed of action make it ideally suited for dermatological use.

Infantile eczema (3 months duration) after 9 days on Veriderm Medrol 1% b.i.d. on right side of body. Itching controlled in 1 day.



Infantile eczema (6 months duration; unresponsive to previous medication, both topical and systemic) shown after 6 days on Veriderm Medrol 1%, once a day on right side of body. Itching controlled in 2 days.



Upjohn
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Photos courtesy F. J. Margolis, M.D., and J. A. Dugger, M.D.

Medrol

Available as:

Veriderm Medrol Acetate 0.25% and 1.0%, in 5 Gm. tubes containing 0.25% and 1.0% Medrol acetate in skin lipid base.

Veriderm Neo-Medrol Acetate 0.25% and 1.0% — for infected dermatoses—in 5 Gm. tubes containing 0.25% and 1.0% Medrol acetate plus 0.5% Neomycin sulfate in skin lipid base.

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 - anogenital pruritus
 - atopic dermatitis
 - seborrheic dermatitis



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THIORIDAZINE HCl
specific, effective tranquilizer



*provides highly effective tranquilization,
relieves anxiety, tension, nervousness.*

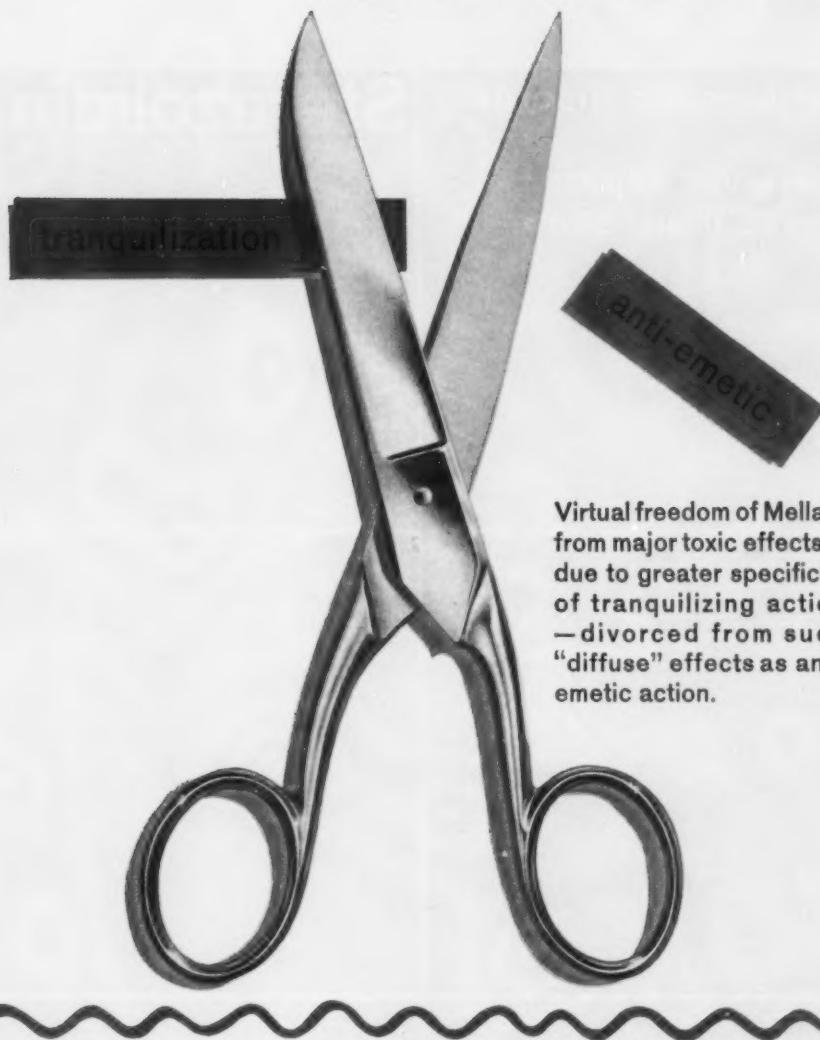
*but is virtually free of such toxic effects as
jaundice*

Parkinsonism

blood dyscrasia

dermatitis

*greater specificity of tranquilizing
action results in fewer side effects*



**Virtual freedom of Mellaril
from major toxic effects is
due to greater specificity
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"A new phenothiazine derivative, thioridazine [Mellaril®], was used to treat 71 patients, most of whom were unduly agitated and disturbed due to hospitalization for medical or surgical conditions....The response to treatment was considered satisfactory in 83.4 per cent of patients....In agreement with the published results of other investigators, we believe that thioridazine shows a greater specificity of tranquilizing action and freedom from serious toxic effects when compared with some of the other phenothiazines."*

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*David, N. A.; Logan, N. D., and Porter, G. A.: Evaluation of Thioridazine (Mellaril), a New Phenothiazine, In The Hospitalized Patient, A. M. & C. T. 7:364 (June) 1960.



in rheumatic disorders
whenever aspirin
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orders; an anti-inflammatory effect more potent than that provided by aspirin. It is often desirable to hasten recovery and get the patient back to work. By combining the anti-inflammatory action of prednisone and phenylbutazone, Sterazolidin brings about exceptionally rapid resolution of inflammation while relieving symptoms and restoration of function. Since Sterazolidin is effective in low dosage, the possibility of significant hypercortisolism, even in long-term therapy, is substantially reduced.

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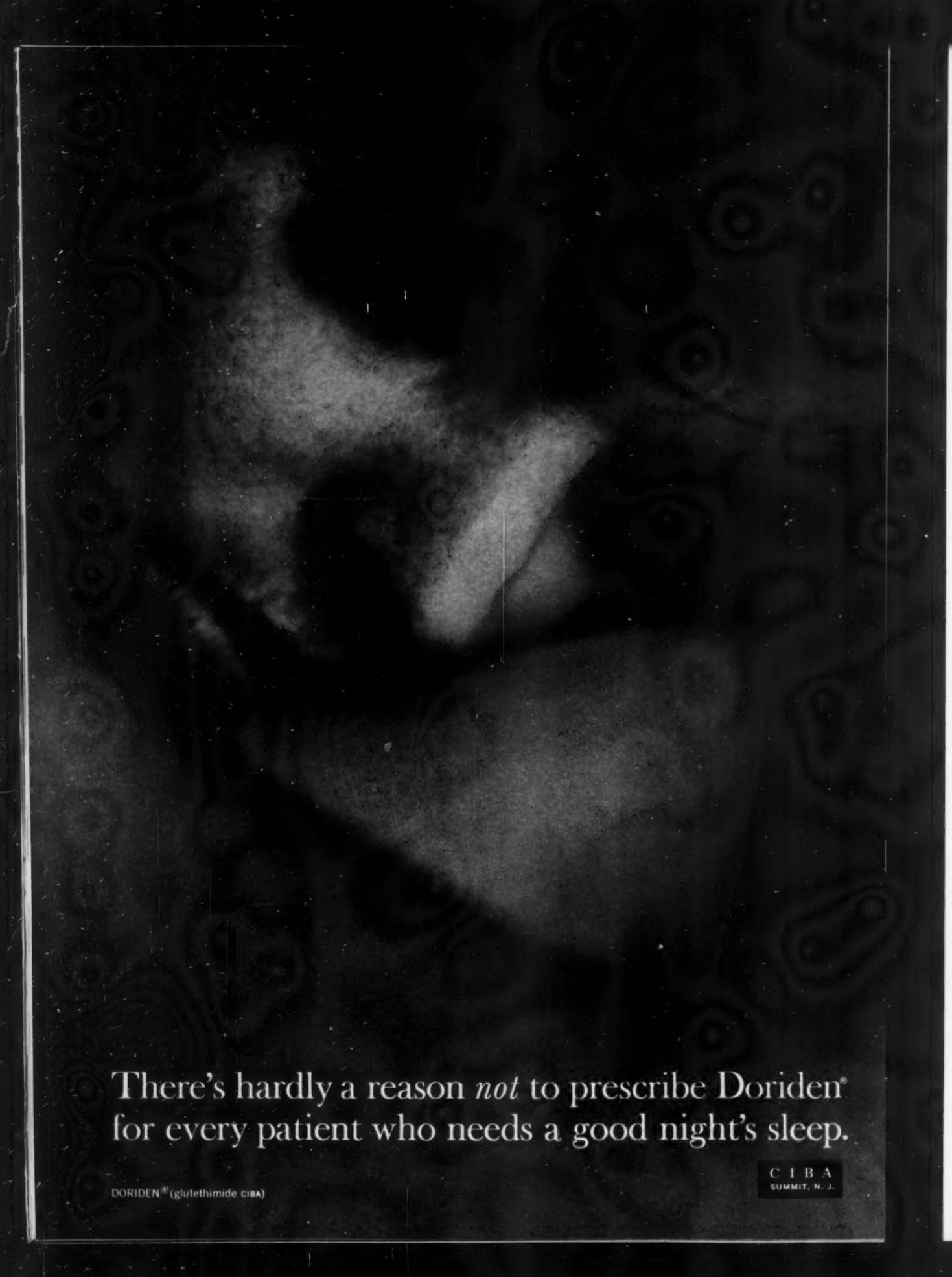
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insect bites? in any case, for
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bitten?



There's hardly a reason *not* to prescribe Doriden®
for every patient who needs a good night's sleep.

DORIDEN®(glutethimide CIBA)

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SUMMIT, N. J.



Why you can prescribe **DORIDEN®** for nearly all insomnia patients

Because it acts smoothly, because it is metabolized rapidly, because it apparently has no toxic effect on the liver or kidney, Doriden is indicated in many cases where barbiturates are unsuitable. With Doriden, for example, you can prescribe a good night's sleep for patients sensitive to barbiturates, elderly patients, patients with low vital capacity and poor respiratory reserve, and those unable to take barbiturates because of renal or hepatic disease. And Doriden patients awake refreshed — except in rare cases, there's no morning "hangover." Complete information sent on request.

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DECA-VI-SOL,[®] 10 significant vitamins, **POLY-VI-SOL,[®]** 6 essential vitamins.

Chewable tablets, with fruit-like flavors, dissolve easily in the mouth...no swallowing problem... no vitamin aftertaste or odor. **Teaspoon vitamins**, orange-flavored liquid vitamins that children take readily.



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Coroner's Corner

A beautiful imported German apothecary jar will be sent to each contributor of an unusual case report.

A widower, 65 years of age, was found unconscious on the kitchen floor of the home he had occupied for many years. He was clad only in underwear and this was torn. The room was a shambles—the stove pipe lay disjointed on the floor, the ash-box was pulled out and ashes spilled, chairs were turned over and objects had been knocked off low shelves. Surely, thought his son who had stopped to call, murder had been committed. The father was still alive but died within a few hours.

At autopsy I found a segment from the edge of a drinking glass lodged tightly in a main stem bronchus. Going back to the premises we were able to match the bit of glass with the broken edge of a drinking glass standing on the window sill over the kitchen sink.

It was postulated that the man, thoroughly familiar with the rooms of his home, had gotten up in darkness and gone to the sink. In



taking a drink he had somehow bitten out a piece of the edge of the glass and inhaled it. It is believed that acute respiratory distress from deprivation of half of his air supply in the lungs must have been responsible for his threshing about the kitchen.

WARREN C. HUNTER, M.D.
Portland, Oregon

TRAUMATIC
ARTHRITIS

RHEUMATISM

keep the
rheumatic
in motion...
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You now have complete therapy for rheumatic disorders—DELENAR resolves musculoskeletal inflammation rapidly with the newest steroid . . . relaxes the spasm with a proved muscle relaxant . . . relieves the pain with a buffered analgesic. Now you can restore comfortable motion safely, surely with DELENAR in . . . RHEUMATISM • RHEUMATOID ARTHRITIS • TRAUMATIC ARTHRITIS • EARLY OSTEOARTHRITIS • FIBROSITIS • CHRONIC FIBROMYOSITIS • RHEUMATOID Spondylitis • TENDINITIS • LOW BACK COMPLAINTS.



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Lowest dosage steroid for effective anti-inflammatory action.....	0.15 mg.
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TEDRAL

the dependable antiasthmatic

TE-M503





What's Your Verdict?

Edited by Ann Ledakowich, Member of the Bar of New Jersey

Tests of a patient's blood indicated it to be of the type A, Rh positive. The patient received a transfusion of one pint of type A blood in the course of an operation for the removal of an ovarian cyst. Another transfusion was administered following the operation. During the second transfusion, the patient manifested symptoms of undue distress. She began to perspire and to shake as if chilled. Ten days later she died of an inflammation of the kidney due to an incompatible blood transfusion reaction.

The husband of the deceased instituted court proceedings against the hospital for negligence resulting in the death of his wife.

At the trial counsel contended that the occurrence of death resulting from the blood transfusions raises an inference of negligence on the part of the hospital's agents who tested, matched and administered the blood. This inference of negligence permits the plaintiff to present his case to the court or jury even though he may be unable to show specific evidence of negligence. This is known in law as the doctrine of *res ipsa loquitur*.

In defense, counsel for the hospital produced evidence establishing that the procedure followed by it in giving blood transfusions met with the professional standards accepted in the community. In addition to the standard tests, an Indirect Coomb's Test had been made which also confirmed that the blood given to the patient was compatible.



Medical witnesses testified at the trial that the best methods known to science in the administration of blood transfusions do not assure safety. Even when these methods are followed, hemolytic reactions occur in from one to five patients in every one thousand transfusions. Twenty-five to thirty percent of those suffering such reactions do not survive.

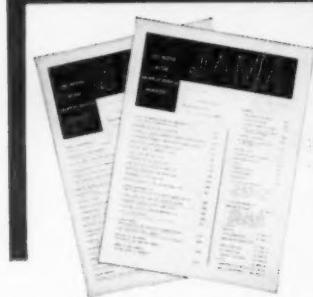
The trial court refused to submit the case to the jury under the doctrine of *res ipsa loquitur* on the ground that an inference of negligence was not justified. From a judgment of no cause of action, counsel for the plaintiff appealed.

How would you decide the appeal?

Answer on page 212a.

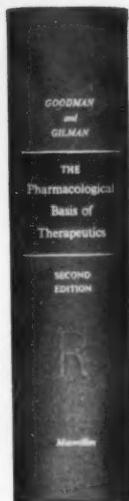
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new Adabee—
for the physician
who has
weighed the . . .

AGAINST MOUNTING EVIDENCE



IN MULTI- VITAMINS

B₁₂ AND FOLIC ACID



Individually, folic acid and B₁₂ fill important clinical roles.¹ But, increasing evidence indicates that multivitamins containing folic acid may obscure the diagnosis of pernicious anemia.²⁻⁷ And vitamin B₁₂, in indiscriminate and unnecessary usage⁵⁻⁸ is likewise blamed for this diagnostic confusion.⁷

Both folic acid and B₁₂ have been omitted from Adabee, in recognition of this growing medical concern. Also excluded are other factors which might interfere with concurrent therapy, such as, hormones, enzymes, amino acids, and yeast derivatives. Adabee supplies massive doses of therapeutically practical vitamins for use in both specific and supportive schedules in illness and stress situations. Thus, new Adabee offers the therapeutic advantage of sustained maximum multivitamin support without the threat of symptom-masking.

references: 1. Wintrobe, M. M., *Clinical Hematology*, 3rd ed., Phila., Lea & Febiger, 1952, p. 398. 2. Goodman, L. S. and Gilman, A., *The Pharmacological Basis of Therapeutics*, 2nd. ed., New York, Macmillan, 1955, p. 1709. 3. New Eng. J.M., Vol. 259, No. 25, Dec. 18, 1958, p. 1231. 4. Frohlich, E. D., New Eng. J.M., 259:1221, 1958. 5. J.A.M.A., 169:41, 1959. 6. J.A.M.A., 173:240, 1960. 7. Goldsmith, G. A., American J. of M., 25:680, 1958. 8. Darby, W. J., American J. of M., 25:726, 1958.

ADABEE®

Each yellow, capsule-shaped tablet contains:

Vitamin A	25,000 USP units
Vitamin D	1,000 USP units
Thiamine mononitrate (B ₁)	15 mg.
Riboflavin (B ₂)	10 mg.
Pyridoxine HCl (B ₆)	5 mg.
Nicotinamide (niacinamide)	50 mg.
Calcium pantothenate ⁹	10 mg.
Ascorbic acid (vitamin C)	250 mg.

ADABEE® M

Each green, capsule-shaped tablet contains Adabee plus nine essential minerals:

Iron	15.0 mg.	Zinc	1.5 mg.
Iodine	0.15 mg.	Potassium	5.0 mg.
Copper	1.0 mg.	Calcium	103.0 mg.
Manganese	1.0 mg.	Phosphorus	80.0 mg.
Magnesium	6.0 mg.		

indications: As dietary supplements for the deficiency states that accompany pregnancy and lactation, surgery, burns, trauma, alcohol ingestion, hyperthyroidism, infections, cardiac disease, polyuria, anorexia, cirrhosis, arthritis, colitis, diabetes mellitus, and degenerative diseases. Also in restricted diets, particularly peptic ulcer, in geriatrics, and in concurrent administration with diuretics and antibiotics.

dosage: One or more tablets a day, as indicated, preferably with meals.

new! ADABEE®

the multivitamin without B₁₂ or folic acid

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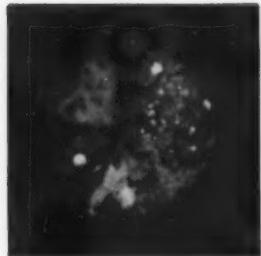


Upjohn

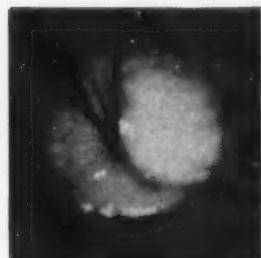
The Upjohn Company, Kalamazoo, Michigan

Excellent results in ulcerative colitis even where other steroids have failed

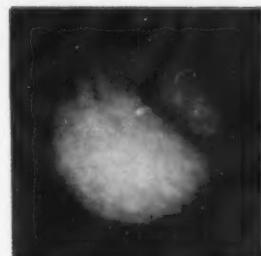
Proctoscopic view of the sigmoid in acute stage of ulcerative colitis



Proctoscopic view of the sigmoid following Depo-Medrol retention enemas for acute stage of ulcerative colitis



Proctoscopic view of sigmoid colon in a normal person



In controlling ulcerative colitis (recurrent, moderately severe, severe, and resistant), Depo-Medrol[†] can be given topically (by enema or rectal instillation) in requisitely large doses without producing significant side effects. Excellent results are obtainable even where other steroids have failed and improvement continues on oral Medrol maintenance dosage.

there is only one methylprednisolone, and that is

Medrol*



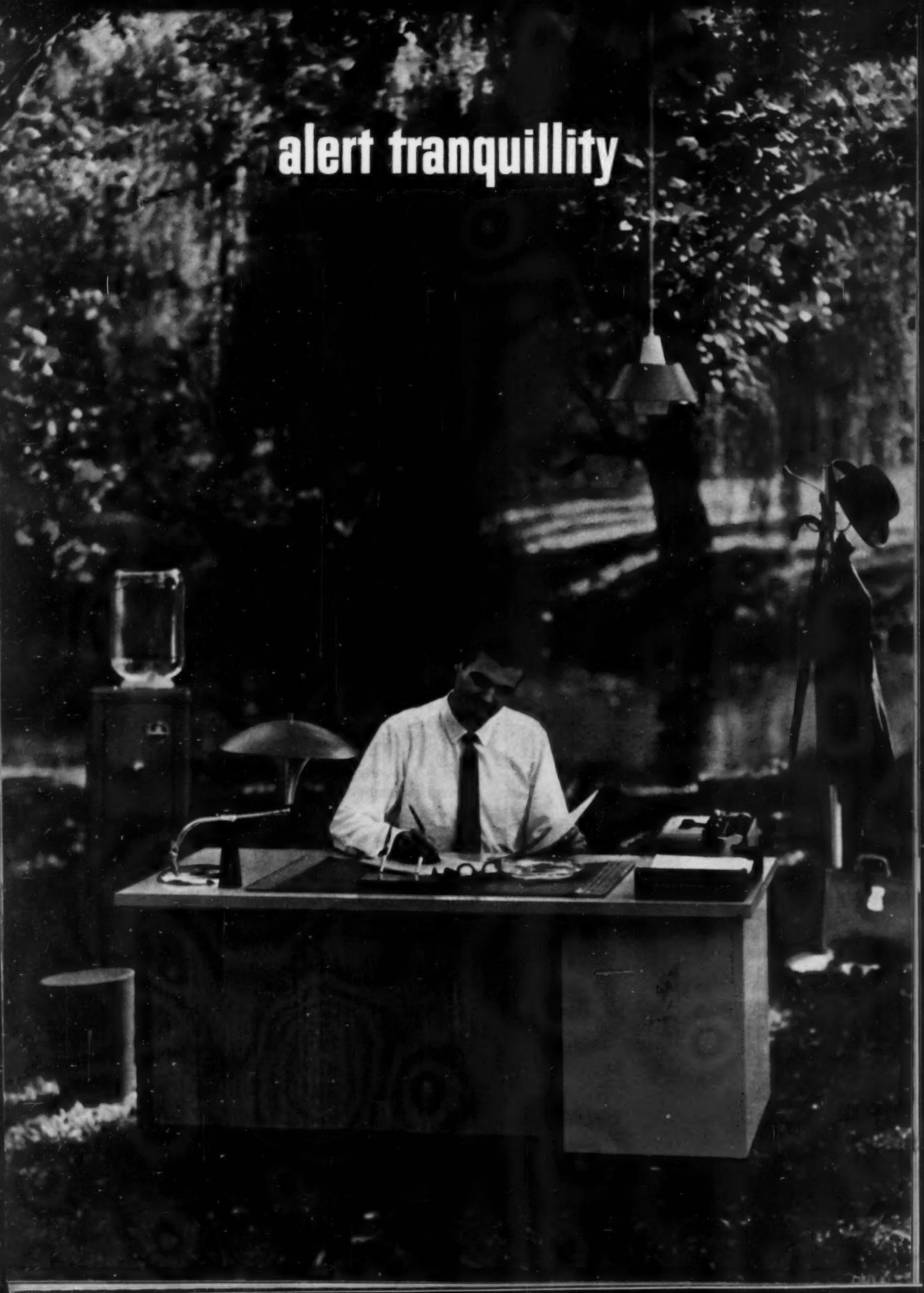
the corticosteroid that hits the disease, but spares the patient

Medrol is supplied as 4 mg. tablets in bottles of 30, 100 and 500; as 2 mg. tablets in bottles of 30 and 100; and as 16 mg. tablets in bottles of 50. Depo-Medrol is supplied as 40 mg. per cc. injectable suspension in 1 cc. and 5 cc. vials. Mode of administration: Depo-Medrol (40-120 mg.) given as retention enema or by continuous drip three to seven times weekly.

*Trademark, Reg. U. S. Pat. Off. - methylprednisolone, Upjohn

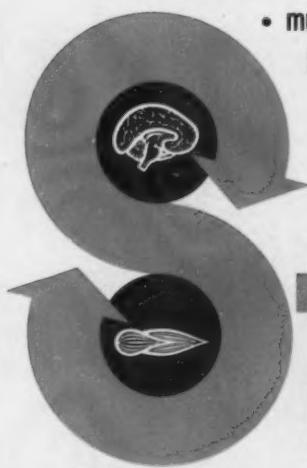
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a new, improved, more potent relaxant for anxiety and tension

- effective in half the dosage required with meprobamate
- much less drowsiness than with meprobamate, phenothiazines, or the psychosedatives
- does not impair intellect, skilled performance, or normal behavior
- neither depression nor significant toxicity has been reported



striatran

alert tranquillity
EMYLICAMATE®

- a familiar spectrum of antianxiety and muscle-relaxant activity
- no new or unusual effects—such as ataxia or excessive weight gain
- may be used in full therapeutic dosage even in geriatric or debilitated patients
- no cumulative effect
- simple, uncomplicated dosage, providing a wide margin of safety for office use

STRIATRAN is indicated in anxiety and tension, occurring alone or in association with a variety of clinical conditions.

Adult Dosage: One tablet three times daily, preferably just before meals. In insomnia due to emotional tension, an additional tablet at bedtime usually affords sufficient relaxation to permit natural sleep.

Supply: 200 mg. tablets, coated pink, bottles of 100.

While no absolute contraindications have been found for Striatran in full recommended dosage, the usual precautions and observations for new drugs are advised.

For additional information, write Professional Services,
Merck Sharp & Dohme, West Point, Pa.



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STRIATRAN IS A TRADEMARK OF MERCK & CO., INC.

one child has epilepsy... even her companions might not know—if her seizures are controlled with medication

"...nowadays our approach should be, as far as possible, to protect the patient with sufficient medicine and allow him to live as much as possible the life of a normal child."¹ Under proper medical care, epileptic children may—and should—participate in the general physical activities of their normal playmates.²

for clinically proved results in control of seizures

DILANTIN®

SODIUM KAPSEALS® outstanding performance in grand mal and psychomotor seizures: "In the last 15 years new anticonvulsant agents have come into clinical use but they have not replaced diphenylhydantoin [DILANTIN] as the most effective single agent for a variety of reasons."³ DILANTIN Sodium (diphenylhydantoin sodium, Parke-Davis) is available in several forms including Kapsals of 0.03 Gm. and of 0.1 Gm., in bottles of 100 and 1,000.

other members of THE PARKE-DAVIS FAMILY OF ANTICONVULSANTS

for grand mal and psychomotor seizures: PHEANTIN® Kapsals (Dilantin 100 mg., phenobarbital 30 mg., desoxyephedrine hydrochloride 2.5 mg.), bottles of 100; for the petit mal triad: MILONTIN® Kapsals, (phensuximide, Parke-Davis) 0.5 Gm., bottles of 100 and 1,000; Suspension, 250 mg. per 4 cc., 16-ounce bottles. CELONTIN® Kapsals (methsuximide, Parke-Davis) 0.3 Gm., bottles of 100.

Literature supplying details of dosage and administration available on request.

Bibliography: (1) Scott, J. S., & Kellaway, P.: *M. Clin. North America* 42:415 (March) 1958. (2) Ganoug, L. D., in Green, J. R., & Steelman, H. F.: *Epileptic Seizures*, Baltimore, Williams & Wilkins Company, 1956, pp. 98-102. (3) Bray, P. F.: *Pediatrics* 23:151, 1959.

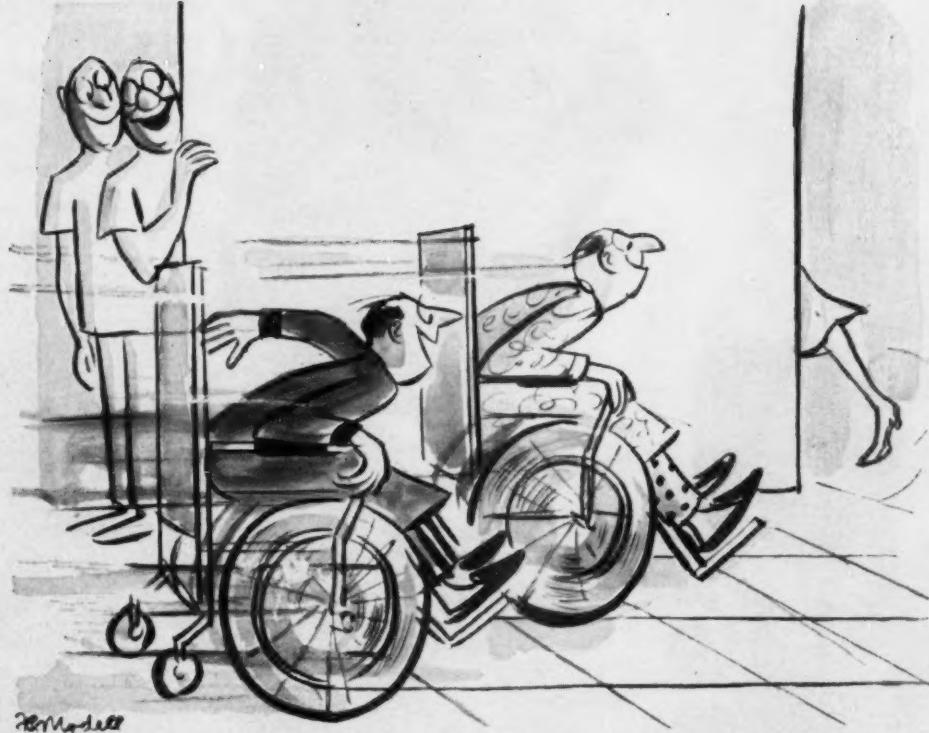
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**improve nutrition—
accelerate
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A single capsule provides 250 mg. of vitamin C and massive doses of B factors to meet the need when requirements are high and reserves are low. Prescribe "Beminal" Forte during convalescence, pre- and postoperatively, and for patients on special diets to improve the prognosis and accelerate recovery.

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In "escaping" rheumatoid arthritis. After gradually "escaping" the therapeutic effects of other steroids, a 52-year-old accountant with arthritis for five years was started on DECADRON, 1 mg./day. Ten months later, still on the same dosage of DECADRON, weight remains constant, she has lost no time from work, and has had no untoward effects. She is in clinical remission.*

New convenient b.i.d. alternate dosage schedule: the degree and extent of relief provided by DECADRON allows for b.i.d. maintenance dosage in many patients with so-called "chronic" conditions. Acute manifestations should first be brought under control with a t.i.d. or q.i.d. schedule.

Supplied: As 0.75 mg. and 0.5 mg. scored, pentagon-shaped tablets in bottles of 100. Also available as Injection DECADRON Phosphate. Additional information on DECADRON is available to physicians on request. DECADRON is a trademark of Merck & Co., Inc.

*From a clinical investigator's report to Merck Sharp & Dohme.

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Dexamethasone
TREATS MORE PATIENTS MORE EFFECTIVELY

MSD MERCK SHARP & DOHME • Division of Merck & Co., Inc., West Point, Pa.

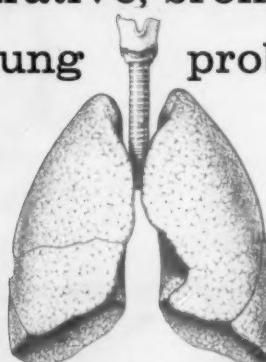


DECLOMYCIN NOTES:

Demethylchlortetracycline *Lederle*

performance in “complicated” cases

“Extra” activity, milligram for milligram²⁻⁴ is the basis for outstanding clinical performance. Results of DECLOMYCIN therapy were satisfactory in a series of pneumonia cases, over half of which were complicated by pleural, suppurative, bronchial, or underlying structural lung problems.¹



1. Duke, C. J.; Katz, S., and Donohoe, R. F.: Demethylchlortetracycline in the Treatment of Pneumonia, Read at Seventh Antibiotics Symposium, Washington, D. C., November 5, 1959.
2. Finland, M.; Hirsch, H. A., and Kunin, C. M.: Observations on Demethylchlortetracycline, Read at Seventh Antibiotics Symposium, Washington, D. C., November 5, 1959.
3. Hirsch, H. A., and Finland M.: Antibacterial Activity of Serum of Normal

Subjects After Oral Doses of Demethylchlortetracycline, Chlor-tetracycline and Oxytetracycline. *New England J. Med.* 260:1099 (May 28) 1959.

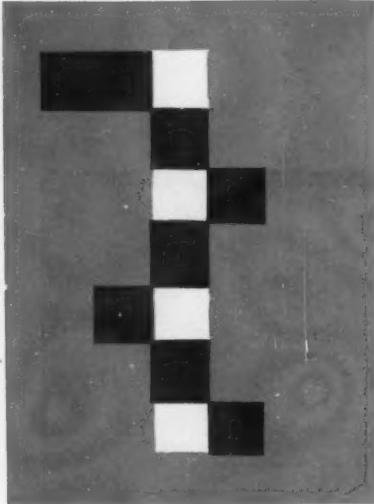
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CAPSULES, 150 mg.—PEDIATRIC DROPS, 60 mg./cc.—new cherry-flavored SYRUP, 75 mg./5 cc. tsp.

FULL ACTIVITY... LESS ANTIBIOTIC... SUSTAINED-PEAK CONTROL... “EXTRA-DAY” PROTECTION AGAINST RELAPSE

PRECAUTIONS: The use of antibiotics occasionally may result in overgrowth of nonsusceptible organisms. Constant observation of the patient is essential.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, N. Y. *Lederle*

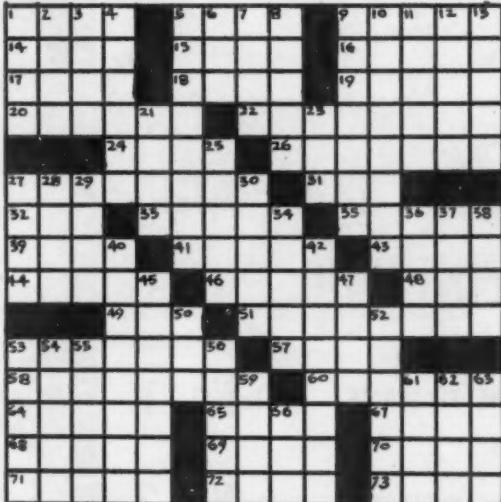


Medical Teasers

*A challenging crossword puzzle for the physician
(Solution on page 200a)*

ACROSS

1. Convolutions
5. Structures of threadlike appearance
9. Astronomical term
14. Level
15. Radix
16. Beryllium, argon, rhodium (symbols)
17. Memorizing through repetition
18. Any looplike anatomical structure
19. A property which affects the sense of taste
20. Pertaining to memory
22. External secretion of a gland
24. A preposition
26. Surrendered
27. Seminal duct
31. Lactobacillus, silicon (symbols)
32. External (prefix)
33. Normal, or in proper order (prefix)
35. A dye used in histological technique
39. Mesh fabrics
41. The planet we inhabit
43. Within (prefix)
44. A clyster
46. Relating to the back
48. Affirmative answers
49. Eye (poet.)
51. Disparage
53. Kind of racehorse
57. A division of mankind
58. Affected with rickets
60. Disposition or frame of mind
64. Indian of a former Mexican empire
65. Sodium, titanium (symbols)
67. Opening of a sweat gland
68. Medicated granule
69. Potassium hypochlorite (symbol)



DOWN

1. A microbe
2. French physician and chemist, discoverer of a test for alkaloids
3. A network of nerve-fibers
4. Presence of fibrin in the blood
5. A break in a bone
6. An electrified particle
7. Mislay
8. Failure of muscular coordination
9. Localized collection of pus
10. An alloy of carbon and iron
11. Savory
12. A volatile oil
13. To become dried
21. Indian (comb. form)
23. Liquid fat
25. Recurring every eighth day, as of a fever
27. Hereditary factor
28. Bovine quadrupeds
29. Memorandum
30. A pulsating sensation
34. Aquatic fur-bearing mammal
36. Anatomy (abbr.)
37. A pastoral composition
38. Organ of smell
40. Suffocates
42. Blurring of the visual image
45. A joint or articulation
47. Pediculi
50. Wager
52. Side of the head
53. Snares
54. One who demolishes
55. Octavalent chemical element
56. Enclosures for skating
59. Comb. form denoting diseased, deformed
61. Indigent
62. God of love
63. A schism
66. Thallium, oxygen (symbols)

"just right" relief from pain ...be it subtle or severe

The need for relief of suffering can be met efficiently and with a high degree of safety with the 'Empirin' family of analgesics...carefully graded to give the proper degree of analgesia for each degree of pain.

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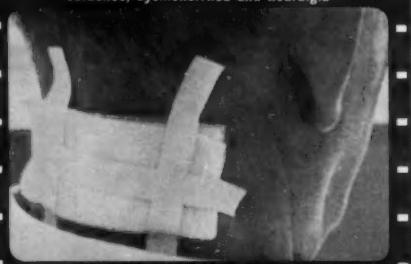
Acetophenetidin gr. 2½
Acetylsalicylic Acid gr. 3½
Caffeine gr. ½



headaches, colds and fever



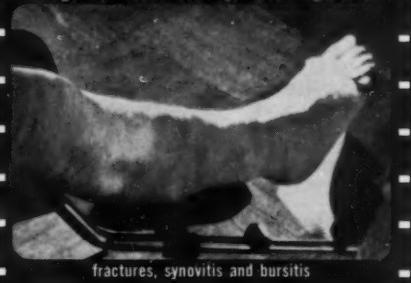
earaches, dysmenorrhea and neuralgia



minor surgery, postpartum pain and trauma



organic disease, muscle spasm and migraine



fractures, synovitis and bursitis

CODEINE PHOSPHATE — gr. 1/8 No. 1

CODEINE PHOSPHATE — gr. 1/4 No. 2

CODEINE PHOSPHATE — gr. 1/2 No. 3

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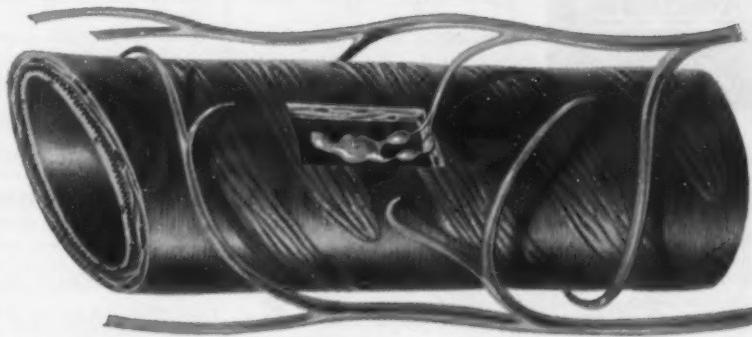
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*New principle: antihypertensive action at
nerve-arteriole junction*

ISMELIN®



*New achievement: reduces high blood pressure to
near-normal levels in 80 to 90 per cent of cases**

*In 80 to 90 per cent of patients with moderate to severe (including malignant) hypertension, Ismelin—alone or combined with other antihypertensives—reduced systolic and diastolic blood pressures to normal or near-normal levels *in the standing position.*¹⁻³ The illustration above—a medical artist's concept of the arteriole—shows the Ismelin site of action: the nerve-arteriole junction.

For comprehensive information about this remarkable new product of CIBA research, please see the following pages.

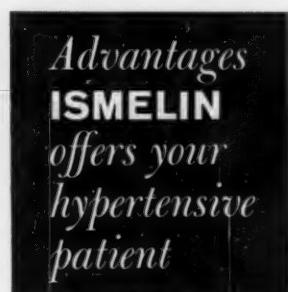
New principle, new achievement in antihypertensive therapy



Ismelin is a potent new antihypertensive agent developed by CIBA research for moderate to severe hypertension. Ismelin represents a new principle in antihypertensive therapy: It acts at the nerve-arteriole junction where it opposes the release and/or distribution of the pressor substance, norepinephrine.

This action differs markedly from that of previously available antihypertensive agents; rauwolfia compounds, for instance, inhibit norepinephrine through the central nervous system, while ganglionic blockers interrupt transmission of pressor impulses at the level of sympathetic ganglia.

Because it acts at the site of arteriolar blood pressure regulation—with no demonstrable evidence of central or parasympathetic effect—Ismelin produces a clear-cut antihypertensive response in a high percentage of cases.



- Almost all forms of moderate to severe hypertension can be managed with Ismelin,

alone or in combination with other antihypertensives.

- Ismelin brings blood pressure down in many persons refractory to other antihypertensive agents.
- Ismelin lowers blood pressure in many patients who cannot be treated effectively with other potent agents because they cannot, or will not, tolerate the side effects.
- Ismelin controls many cases of renal hypertension, often when other agents fail.
- Patients need take Ismelin only once a day.
- Most patients have been treated with Ismelin for prolonged periods without developing tolerance to it (although instances of tolerance have been reported).
- Smooth absorption of Ismelin results in predictable blood pressure responses.

Sites of Action: How Ismelin differs from other antihypertensive agents

The diagram shows a side-view outline of a human body. Lines point from the text descriptions to specific anatomical areas: the cerebral cortex at the top of the head; the hypothalamus in the brain; the midbrain; the vasomotor center in the medulla; the carotid sinus in the neck; the autonomic ganglia; and the nerve-arteriole junctions in the periphery.

Barbiturates—The cerebral cortex.

Rauwolfia compounds—The hypothalamus (with some peripheral effects).

Hydralazine—The midbrain. Hydralazine prevents excessive outflow of sympathetic vasopressor impulses. In addition, it inhibits release and/or action of circulating pressor substances.

Veratrum alkaloids—The vasomotor center in the medulla, but acting only indirectly (act through a reflex from the carotid sinus).

Ganglionic blocking agents—The autonomic ganglia. Since ganglionic blockers act by blocking transmitter substance, acetylcholine, in the ganglia, these drugs also block the parasympathetic system.

Thiazide compounds—Specific site or mode of action still undetermined.

ISMELIN—Represents a new principle in the treatment of high blood pressure. Acting at the nerve-arteriole junction, Ismelin inhibits the release and/or distribution of the pressor substance, norepinephrine.

This diagram illustrates a cross-section of a blood vessel surrounded by nerves. An arrow points from the text "acting at the nerve-arteriole junction" to the area where a nerve fiber is shown branching near the vessel wall.

ISMELIN:
for a wide
range of
hypertensive
patients

Ismelin is useful in patients with moderate to severe hypertension—particularly:

- In place of other antihypertensive drugs when patients are refractory and blood pressure levels remain persistently high.
- In combination with other antihypertensive drugs when these fail to bring blood pressure down to desired levels, or to normotensive ranges.
- As a replacement for other potent agents (including ganglionic blockers) when side effects prevent effective treatment.

In 80 to 90 per cent of cases...Ismelin reduces blood pressure to near-normal levels

According to reports from more than 100 clinical investigators, Ismelin reduces blood pressure levels to normal or near-normal in a remarkably high percentage of patients. Note these typical findings:

17 of 18 patients (94.4%) treated with Ismelin become normotensive in the erect position.

Page and Dustan¹ gave Ismelin orally, alone or in combination with other antihypertensive drugs, to 18 patients daily for 2 to 12 weeks.

RESULTS: All 18 patients had reductions in standing blood pressure; 16 had reductions in supine blood pressure as well. In 17 of the 18 cases, blood pressure levels became normal or near-normal in the erect position.

Average Standing B.P.
Control pressures 173/115 mm. Hg
Results with Ismelin 131/85 mm. Hg (during last week of treatment)

In 14 of 15 patients (93.3%) on Ismelin, blood pressure reduced to normal or near-normal levels in the standing position.

Ismelin was administered orally by Frohlich and Freis² for 4 to 9 weeks to 15 male patients selected from the hypertensive clinic. All previous antihypertensives were discontinued for a period of 2 weeks.

RESULTS: Ismelin evoked a potent antihypertensive response in the erect position: the blood pressure of 14 of the 15 patients dropped to normotensive or near-normotensive levels. "The response [to Ismelin] was characterized by a potent, orthostatic, antihypertensive effect similar to that seen with the ganglionic blocking drugs but without the side-effects of parasympathetic blockade."²

Average Standing B.P.
Pretreatment pressures 181/122 mm. Hg
Results with Ismelin 132/90 mm. Hg

In 15 of 18 subjects (83.3%), Ismelin reduced high blood pressure to near-normotensive levels.

Ismelin was administered orally by Richardson and Wyse³ to 18 male hospitalized patients with hypertension. Complications included hemorrhages, exudates or papilledema of the optic fundi. Ten had BUN above 25 mg. per cent "...and six had previously failed to respond to ganglionic blocking drugs and chlorothiazide in the hospital."³

RESULTS: "All patients showed definite reduction in blood pressure coincident with administration of Ismelin. In most of the subjects [15], standing blood pressure could be maintained near normal levels."³

Average Standing B.P.
Control pressures 195/129 mm. Hg
Results with Ismelin 139/89 mm. Hg

"Side-effects encountered... have indeed been minimal..."⁴

Brest and Moyer⁴ state: "Side-effects [of Ismelin] encountered to date have indeed been minimal, with mild diarrhea as the only significant complaint even when large daily doses (450 mg.) of the drug are administered. No evidence of toxic action of the drug has been encountered thus far." Page⁵ observes: "...Guanethidine [Ismelin] has the advantage [over ganglionic blockers] in that it is much easier to handle and does not produce nearly as much dose sensitivity. Too much of a ganglion-blocking agent will really 'clobber' the patient; with Guanethidine, there is much more leeway." Kirkendall and co-workers⁶ report: "Guanethidine has remarkably few side effects. The absence of symptoms of parasympathetic blockade makes its use better tolerated by most patients than conventional ganglion blocking therapy." Leishman and associates⁷ conclude: "The capacity of guanethidine to reduce the blood-pressure of hypertensive patients without symptoms of parasympathetic blockade is consistent with a mechanism of selective sympathetic-nerve inhibition..."

How to use Ismelin:

Precautions: Ismelin is a potent drug, and its misuse can lead to disturbing and serious clinical problems. Physicians should familiarize themselves with the details of its use before prescribing. Ismelin is contraindicated in patients with a pheochromocytoma for two reasons. Since Ismelin initially causes the release of norepinephrine, it may cause a release of the hormone from the tumor, causing a precipitous blood pressure rise. The effect of norepinephrine is augmented by prior treatment with Ismelin, so the release of the hormone by the tumor in a treated patient would have an adverse effect.

Dosage: *Ambulatory Patients*—Individualization of dosage is essential for optimal results. Blood pressure should be taken in both the supine and the standing position at every visit and increases in dosage made only if there has been no decrease in standing blood pressure from the previous levels. Average daily dose is 25 to 50 mg. A single daily dose is generally most convenient.

Dosage Chart for Initiating Ismelin in Ambulatory Patients

VISITS AT INTERVALS OF 5 TO 7 DAYS	DAILY DOSE
Visit No. 1 (Start with 10-mg. tablets)	10 mg.
Visit No. 2	20 mg.
Visit No. 3 (Patient can be changed to 25-mg. tablets whenever convenient)	30 mg. (three 10-mg. tablets) or 37½ mg. (one and one-half 25-mg. tablets.)
Visit No. 4	50 mg.

At Visit No. 5, and subsequent visits, the dosage may be increased by 12.5 mg. or 25 mg. if necessary.

The dosage should be reduced in any one of the following three situations:

1. *Normal supine pressure.* Since Ismelin may have a cumulative effect, it is both desirable and necessary to use the lowest effective dosage.
2. *Excessive orthostatic reduction.*
3. *Severe diarrhea.* While some increase in bowel movements can be easily controlled, severe diarrhea is a sign of overdosage.

Side effects: Patients may develop postural hypotension. While symptoms can be minimized by careful dosage adjustment, some patients will experience lightheadedness and dizziness. In patients with severe symptoms, Ismelin should be withheld and should be resumed at lower doses when all symptoms have cleared.

Unlike ganglionic blockers, Ismelin does not cause *impotencia erigendi*. Ejaculation, however, is sometimes completely inhibited.

Diarrhea has been bothersome in some instances; it is frequently controlled with lower doses or with Antrenyl, 5 mg. t.i.d. Other side effects reported in a few patients: mild edema, nasal congestion, fatigue and weakness.

For more complete information on precautions, dosage, and side effects, write to Medical Service Division, CIBA, Summit, N. J.

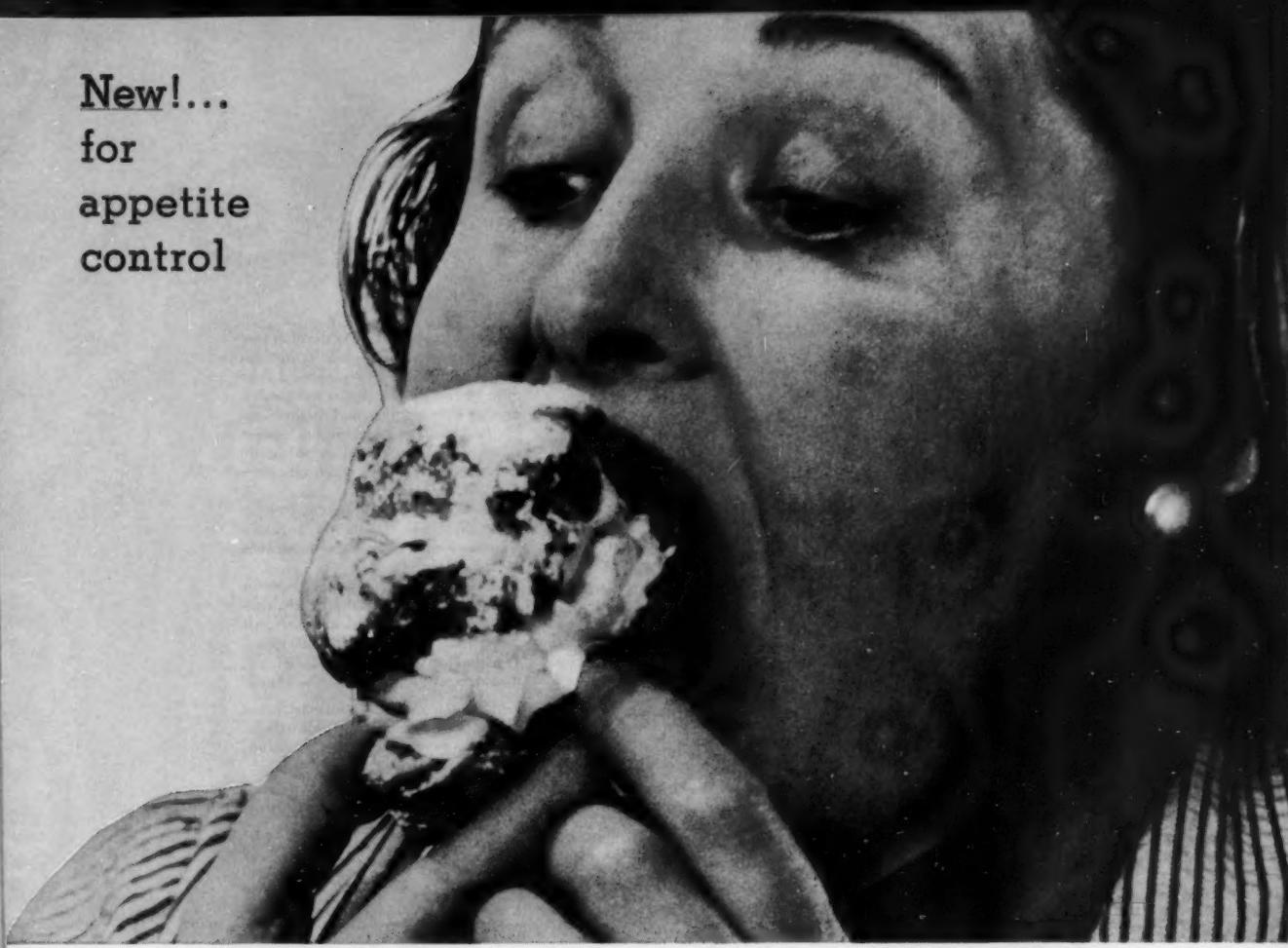
Supplied: Tablets, 10 mg. (yellow, scored) and 25 mg. (white, scored).

References: 1. Page, I. H., and Dustan, H. P.: J.A.M.A. 170:1265 (July 11) 1959. 2. Frohlich, E. D., and Freis, E. D.: M. Ann. District of Columbia 24:419 (Aug.) 1959. 3. Richardson, D. L., and Wyse, G. M.: Virginia M. Month. 86:377 (July) 1959. 4. Brest, A. N., and Moyer, J. H.: J.A.M.A. 172:104 (March 5) 1960. 5. Page, I. H.: Foreign Med. 27:49 (April) 1960. 6. Kirkendall, W. B., Fitz, A. M., Van Hecke, D. C., Wilson, W. R., and Armstrong, M. L.: Paper presented at A Symposium on Guanethidine (Ismelin). The University of Tennessee College of Medicine, Memphis, Tenn., April 22, 1960. 7. Leishman, A. W., Matthews, H. L., and Smith, A. J.: Lancet 2:1044 (Dec. 12) 1959. Additional references: 8. Brest, A. N., Duarte, C., Glantz, G., and Moyer, J. H.: Current Therap. Res. 2:17 (Jan.) 1960. 9. Maxwell, R. A., Muli, R. P., and Plummer, A. J.: Experientia 15:267 (July 1959). 10. Maxwell, R. A., Plummer, A. J., Schneider, F., Povalski, H., and Daniel, A. L.: J. Pharmacol. & Exper. Therap. 128:22 (Jan.) 1960. 11. Maxwell, R. A., Plummer, A. J., Schneider, F., Povalski, H., and Daniel, A. L.: Pharmacologist 1:86 (Fall) 1959. 12. Sheppard, H., and Zimmerman, J.: Pharmacologist 1:69 (Fall) 1959.

ISMELIN® sulfate (guanethidine sulfate CIBA)
ANTRENYL® bromide (oxyphenonium bromide CIBA)



New!...
for
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Controls compulsive overeating

CURBS APPETITE... RELIEVES TENSION HUNGER...
TRANQUILIZES "DIET JITTERS"

Why do so many overweight patients so often break their diets?

The reason is usually tension.^{1,2,3} Apppetrol has been formulated to help you solve this problem.

Apppetrol provides dextro-amphetamine to curb your patient's appetite. Even more important, it provides meprobamate to control compulsive overeating, to ease the frustration of the dietary regimen — and to minimize the jittery effects of amphetamine.

Thus, Apppetrol does more than other anorectics which merely suppress appetite. Apppetrol also tranquilizes tension hunger to give more complete control of compulsive overeating. Your patients find it easier to stay on their diets — even during prolonged periods.

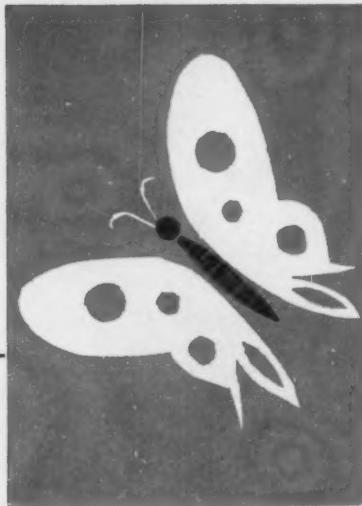
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Usual dosage: 1 or 2 tablets one-half to 1 hour before meals. Each tablet contains: 5 mg. dextro-amphetamine sulfate and 400 mg. meprobamate.

Available: Bottles of 50 pink, scored tablets.

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AFTER HOURS



My favorite hobby is quail hunting. In my opinion there is nothing to make one's heart beat faster than to see a beautiful bird dog on solid point on a brisk autumn day, to hear the bomblike burst of sound that the bobwhite covy makes as it breaks from its cover, and to follow up with the downing of one or two birds caught cleanly on the rise. We are fortunate in this particular territory to have perhaps the best quail hunting in the United States.

My favorite shotgun is a 16-gauge double Winchester 21, with a single selective trigger and 26-inch barrels with improved cylinder on the right side and a modified on the left. The ammunition that I prefer is a scatter load with a No. 8 lead drop shot. This is a light load that makes a broad pattern for fast shooting.

I have used both of the popular species of dogs for quail hunting in our territory, namely the setter and the pointer. The pointer has one distinct advantage over the setter in that he has more stamina and is a flashier, hard-going dog. He also makes a prettier point than the setter. At present I have two pointers, one a liver-white named Duke, two years of age, and a five-month-old black and white named Spot.

Most hunters feel that their bird dog is tops but most of them, I'm afraid, have a prejudiced opinion of their own dog. Actually there are not too many excellent bird dogs. To be classed as excellent, the bird dog should have several qualifications:

He should have a tremendous desire and

spirit to hunt every day that he is taken out to the field. He should point solidly, not moving any part of his body after making his point unless the birds are running, and then he should move cautiously forward or circle the birds wide enough to head them off and stop them with another staunch point, which he should hold until told to go fetch the game. He should retrieve the fallen bird from any distance and should not bite down and tear up the meat of the bird.

He should also hunt moderately wide to locate covies of quail, but when a covey is scattered he should be suitably broken to hunt close for single birds. He should also automatically point as soon as he sees any other dog on point and should stay until the other dog breaks his point. My liver and white pointer does all these things very well except for the honoring of another dog.

I hunt on Thursdays and Saturdays from November 10th until January 1st. I usually open the season in southwest Missouri, hunting with a cousin for three or four days, then finish up the season here in Oklahoma. Our past season was one of our very best in the last fifteen years.

REX M. GRAHAM, M.D.
Miami, Oklahoma

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peaks
or
valleys

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the original crystalline digitoxin

NATIVELLE®

You will find that Digitaline Nativelle, the original crystalline digitoxin, provides exactly the balanced, controlled maintenance dose you want for your cardiac patient. Its duration of activity is neither too short nor unduly prolonged, well suited to daily maintenance therapy. Its complete absorption and purity assure uniform potency, precision of dosage, total utilization and effectiveness. A product of Nativelle, Inc.



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THE TREATMENT OF YOUR CHOICE

*in arthritis
and related
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Three different combinations of prednisone, salicylates and buffers provide a choice of therapy to fit the individual needs of your patients, giving optimal relief of symptoms with minimal side effects.

For the acute, inflammatory stage

PREDSEM

Each white tablet contains:
Prednisone* 5 mg.
Calcium Pantothenate . . . 10 mg.
Aluminum Hydroxide
 Gel, dried 0.2 Gm.
Magnesium Trisilicate . . . 0.1 Gm.

Antacids and calcium pantothenate guard against gastric distress and peptic ulcer.

For the sub-acute, severe phase

SALCORT®-DELTA

Each yellow tablet contains:
Prednisone* 1 mg.
Potassium Salicylate . . . 0.3 Gm.
Calcium Pantothenate . . . 5 mg.
Calcium Ascorbate . . . 30 mg.
(Equiv. to 25 mg. Ascorbic Acid)
Calcium Carbonate . . . 80 mg.
Aluminum Hydroxide
 Gel, dried 0.12 Gm.

Potassium salicylate compensates for reduced prednisone dosage. Buffered with protective antacids; fortified with ascorbic acid and calcium pantothenate.

For long-term maintenance

SALCEDROX®

Each orange tablet contains:
Sodium Salicylate . . . 0.3 Gm.
Aluminum Hydroxide
 Gel, dried 0.12 Gm.
Calcium Ascorbate . . . 60 mg.
(Equiv. to 50 mg. Ascorbic Acid)
Calcium Carbonate . . . 80 mg.

High salicylate dosage, buffered to prevent gastric disturbances.

*U. S. Pat. No. 2579475

Write for detailed literature and dosage schedules.

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Equilibrium for the epileptic

Before an epileptic child starts school, better control of seizures and the emotional support of "physician-educated" parents can help him to develop normal interpersonal relationships.

Mebaral is highly effective for most types of seizures, especially major motor seizures in children. Because it does not produce sedative daze, it does not tend to lower learning capacity.

Mebaral is unsurpassed in safety; regardless of the type of epilepsy, it is one of the best tolerated and "... least upsetting of all forms of therapy."¹ Even when Mebaral is used year after year, toxic reactions or ill effects are rare.

MEBROIN®, a synergistic combination of Mebaral and diphenylhydantoin, provides maximal control of seizures with minimal toxicity. Side effects are infrequent. Each relatively tasteless tablet contains 90 mg. of Mebaral and 60 mg. of diphenylhydantoin.

Mebaral dosage: Children under 5 years, from $\frac{1}{4}$ to $\frac{1}{2}$ grain three or four times daily; over 5 years, from $\frac{1}{2}$ to 1 grain three or four times daily. Adults, from 6 to 9 grains daily.

Mebroin dosage: Children under 6 years, $\frac{1}{2}$ tablet once or twice daily; over 6 years, 1 tablet two or three times daily. Adults, 1 or 2 tablets three times daily (average dosage).

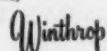
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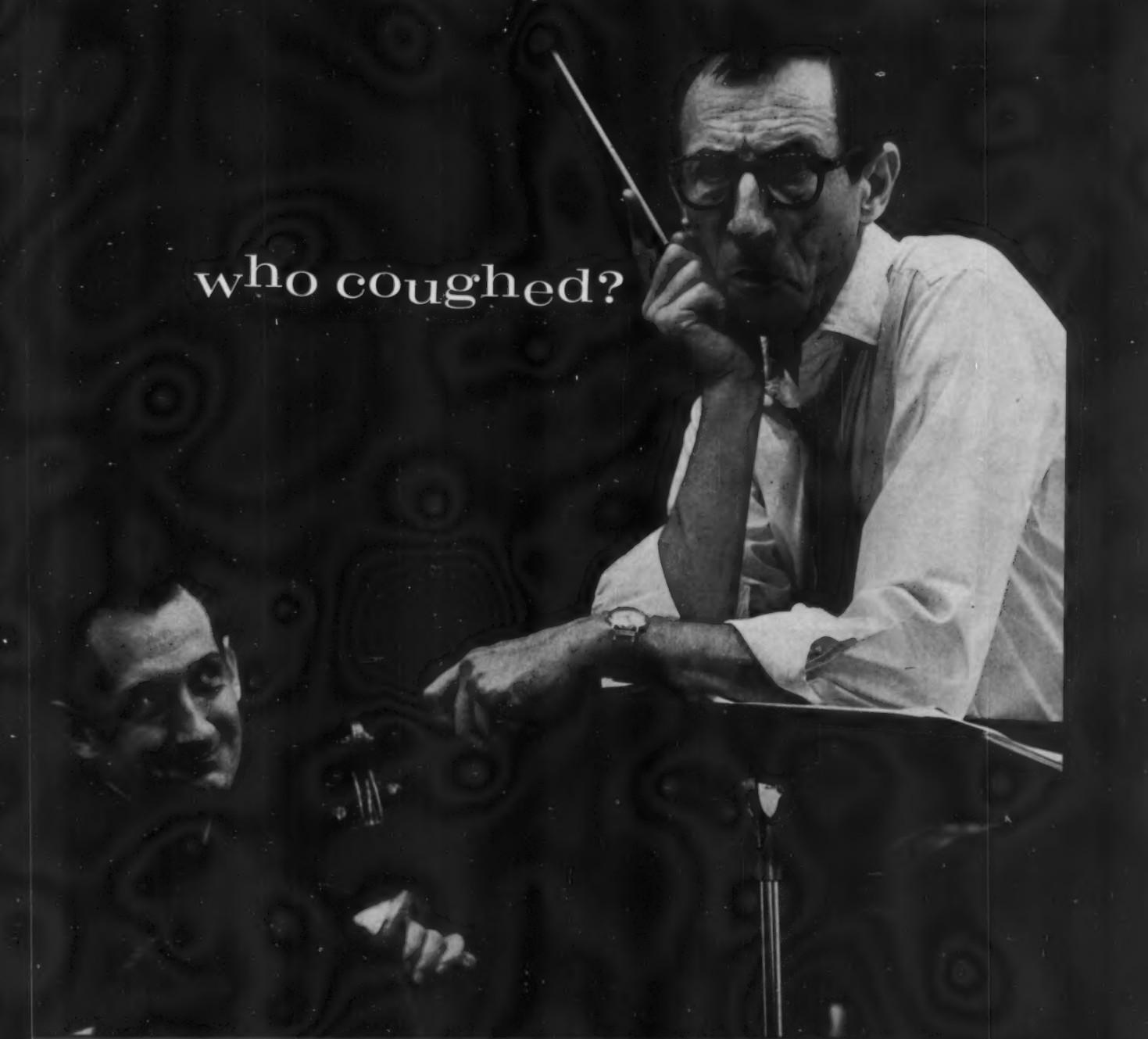
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How Supplied: Mebaral tasteless tablets of 200 mg. (3 grains), 100 mg. (1 $\frac{1}{2}$ grains), 50 mg. ($\frac{1}{4}$ grain), and 32 mg. ($\frac{1}{2}$ grain). Bottles of 100. Mebroin virtually tasteless tablets. Bottles of 100 tablets.

1. Robertson, E. G.: *Postgrad. Med.* 25:31, Jan., 1959.

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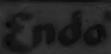
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- relieves cough and associated symptoms in 15-20 minutes
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Each teaspoonful (5 cc.) of HYCOMINE® Syrup contains:
Hycodan®

Dihydrocodeinone Bitartrate (Warning: May be habit-forming)	5 mg.	6.5 mg.
Homatropine Methylbromide	1.5 mg.	
Pyrilamine Maleate		12.5 mg.
Phenylephrine Hydrochloride		10 mg.
Ammonium Chloride		60 mg.
Sodium Citrate		85 mg.

Average adult dose: One teaspoonful after meals and at bedtime.
May be habit-forming. Federal law permits oral prescription.



Literature on request

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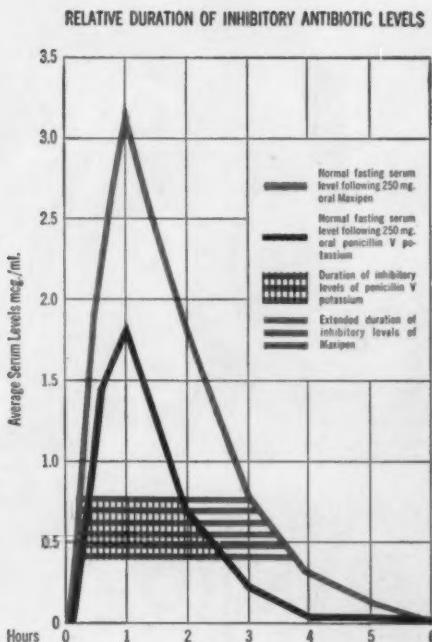
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an
orally maximal
penicillin

maximal serum concentration provides longer duration of inhibitory antibiotic levels for less susceptible organisms



The majority of penicillin-susceptible organisms are inhibited *in vitro* by very low concentrations of the antibiotic. Less frequently, susceptible organisms require somewhat higher concentrations. In the latter group, the period of MAXIPEN's inhibitory concentration is longer than that of penicillin-V, as can be seen in the chart at left. If the M.I.C. (minimum inhibitory concentration) for penicillin-V is slightly lower than for MAXIPEN, this may still hold true.

Although higher serum levels do not in themselves infer greater antibacterial activity, for those less susceptible organisms MAXIPEN may provide maximal exposure to inhibitory concentrations.

A TRIUMPH OF MAN OVER MOLECULE a product of Pfizer research

DOSAGE: In moderately severe penicillin-susceptible infections, 125 to 250 mg. three times daily. In more severe conditions, 500 mg. as often as every 4 hours around the clock.

MAXIPEN may be administered without regard to meals. However, highest absorption is achieved when it is taken just before or between meals.

NOTE: To date, allergic reactions have not been less with MAXIPEN than with older oral penicillins. Usual precautions regarding penicillin administration should be observed.

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Formulated from Pfizer's line of fine pharmaceutical products.

SUPPLIED: MAXIPEN TABLETS, scored, 125 mg., bottles of 36; 250 mg., bottles of 24 and 100. MAXIPEN FOR ORAL SOLUTION, each 5 cc. of reconstituted liquid containing 125 mg., available in 60 cc. bottles.

REFERENCES on phenethicillin potassium (α -phenoxethyl penicillin potassium):
 1. Gourevitch, A., et al., *Antibiotics Ann.* 1959/60, pp. 111-118. 2. Pindell, M. H., et al., *Jobst*, pp. 110-120. 3. Pindell, M. H., et al., *Ibid.*, pp. 127-132. 4. Cronk, G. A., et al., *Ibid.*, pp. 133-145. 5. Osment, Lamar S.: Pilot Study of Alpha-Phenoxyethyl Penicillin in Skin Infections, *Clin. Med.* 7:523 (Mar.) 1960. 6. Garrad, L. P.: Relative Antibacterial Activity of Three Penicillins, *Brit. M. J.* (Feb. 20) 1960, p. 527.



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Science for the World's Well-Being™



a pair of cardiac patients:



both are free of pain—but only one is on

DILAUDID®

(Dihydromorphinone HCl)

swift, sure analgesia normally unmarred by nausea and vomiting

DILAUDID provides unexcelled analgesia in acute cardiovascular conditions. Onset of relief from pain is almost immediate. The high therapeutic ratio of DILAUDID is commonly reflected by lack of nausea and vomiting—and marked freedom from other side-effects such as dizziness and somnolence.

◆ by mouth ◆ by needle ◆ by rectum

2 mg., 3 mg., and 4 mg.

May be habit forming—usual precautions should be observed as with other opiate analgesics.



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Who Is This Doctor?

Identify the famous physician from clues in this brief biography

He was born on March 19th, 1813, at Blantyre near Glasgow, the second in a family of six. Work, strong religious feelings and a high standard of morality were the principles with which he was brought up.

While still in his teens he resolved to dedicate his life to the alleviation of human misery and decided to obtain a medical education to be better qualified for such work.

He attended medical classes at Anderson College in winter and in summer listened to lectures on divinity.

He received his medical degree in London at the age of 27. In the same month he was ordained, and as a missionary, embarked for Africa on December 8th, 1840.

In the spirit of missionary work, he lived among the natives and devoted himself to learning their language and customs. At the same time he studied the country's geology and natural history.

In 1843, he established a mission at Mabotsa, and it was here that he was attacked by a lion which crushed his left arm.

He traveled widely, explored large areas of the African continent, and in 1856, he was given an enthusiastic reception at the Royal Geographical Society where he was awarded a gold medal for his work. Oxford and Glasgow conferred honorary degrees upon him.

Once, for a period of several years, the world believed him lost; the New York *Herald* sent an expedition to Africa to search for him. He was found but could not be persuaded to return.

Weakened by dysentery and recurrent malarial fever, he died May 1, 1873. The friendly natives buried their master's heart under a tree and set out with the dead body on a long and arduous journey to the coast. (The trip took five months.) The body was interred in Westminster Abbey, April 18, 1874.

No single explorer has ever contributed so much to the knowledge of African geography as he did in his 30-years' work.

To Scottish school children he once expressed the motto of his life: "Fear God and work hard." Can you identify this doctor?

Answer on page 212a.

*on the pathogenesis
of pyelonephritis:*

"An inflammatory reaction here [renal papillae] may produce sudden rapid impairment of renal function. One duct of Bellini probably drains more than 5000 nephrons. It is easy to see why a small abscess or edema in this area may occlude a portion of the papilla or the collecting ducts and may produce a functional impairment far in excess of that encountered in much larger lesions in the cortex."¹

The "exquisite sensitivity"² of the medulla to infection (as compared with the cortex), highlights the importance of obstruction to the urine flow in the pathogenesis of pyelonephritis. "There is good cause to support the belief that many, perhaps most, cases of human pyelonephritis are the result of infection which reaches the kidney from the lower urinary tract."³

to eradicate the pathogens no matter the pathway

FURADANTIN®

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High urinary concentration • Glomerular filtration plus tubular excretion • Rapid antibacterial action • Broad bactericidal spectrum • Free from resistance problems • Well tolerated—even after prolonged use • No cross resistance or cross sensitization with other drugs

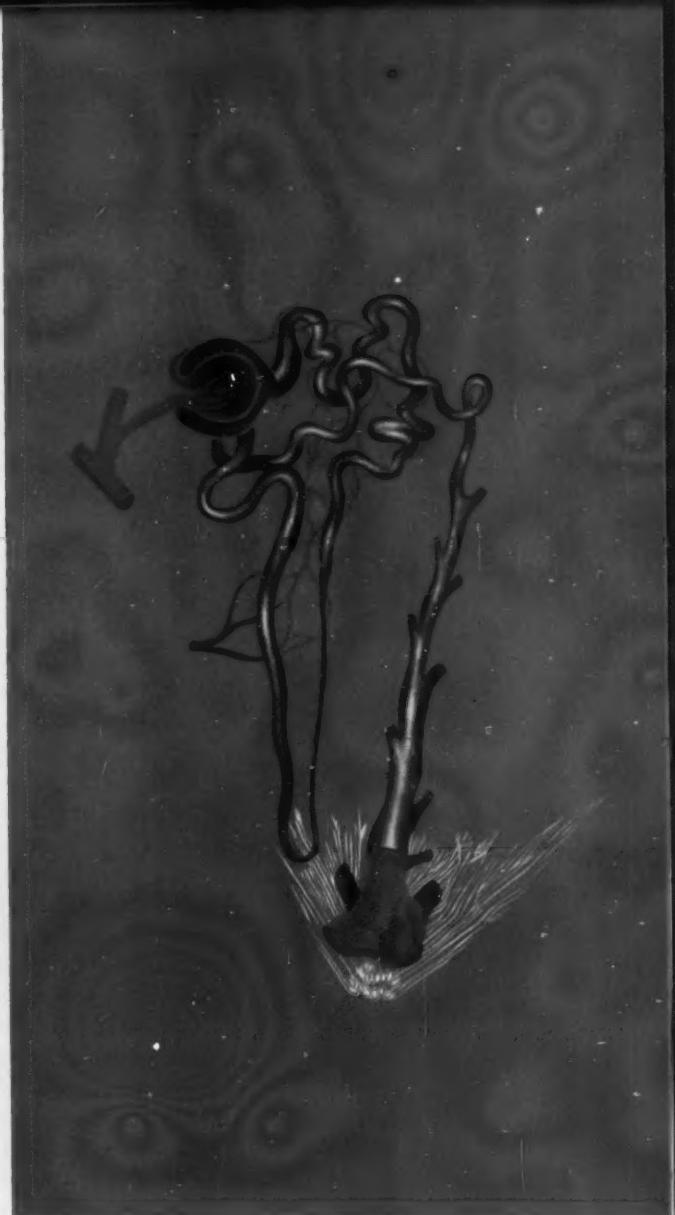
Average Furadantin Adult Dosage: 100 mg. tablet q.i.d. with meals and with food or milk on retiring. *Supplied:* Tablets, 50 and 100 mg.; Oral Suspension, 25 mg. per 5 cc. tsp.

References: 1. Schreiner, G. E.: A.M.A. Arch. Int. M. **102**:32, 1958. 2. Freedman, L. R., and Beeson, P. B.: Yale J. Biol. & Med. **30**:406, 1958. 3. Rocha, H., et al.: Yale J. Biol. & Med. **30**:341, 1958.



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By supplementing the diet, NATABEC helps the gravida and nursing mother meet the nutritional demands of pregnancy and lactation. Each Kapsel provides a balanced formula of vitamins and minerals important to the maintenance of optimum health. Dosage: One or more Kapsels daily. Supplied: Natabec Kapsels are available in bottles of 100 and 1000.

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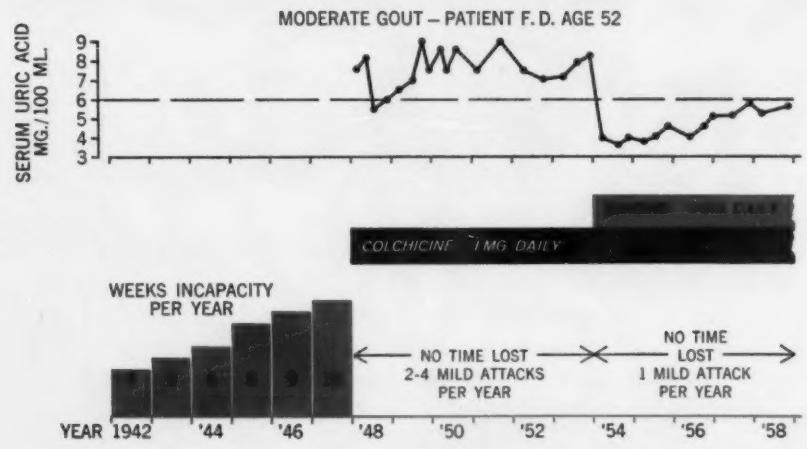
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33860



Before treatment.

Extensive gouty changes in base of proximal phalanx of great toe and in head and shaft of the first metatarsal.



Effect of colchicine and BENEMID on serum uric acid level and periods of incapacity.²

Two years later.
Patient had been treated with colchicine
and BENEMID regularly. Note reconstitution
of bony structures, particularly
along distal shaft of the first metatarsal.¹

NEW

for optimal management of gout

COLBENEMID

Colchicine and Benemid®

a complementary formulation
of two classic anti-gout agents

"Prophylactic management [of gout] embodies the use of the two agents just discussed, namely, colchicine and Benemid. Each one complements the other. Neither one by itself is as effective as a combination....Since 1950, Benemid has been available and the greater the experience we have with the combination of colchicine and Benemid the greater the reliance we place upon these two drugs."²

Composition: Each tablet contains 0.5 mg. colchicine and 0.5 Gm. BENEMID probenecid.

Dosage between acute episodes: Mild, 1 tablet a day; moderate, 1 tablet twice daily; severe, 1 tablet three or more times daily.

Supply: Bottles of 100.

Also available: BENEMID probenecid, 0.5 Gm. tablets, bottles of 100.

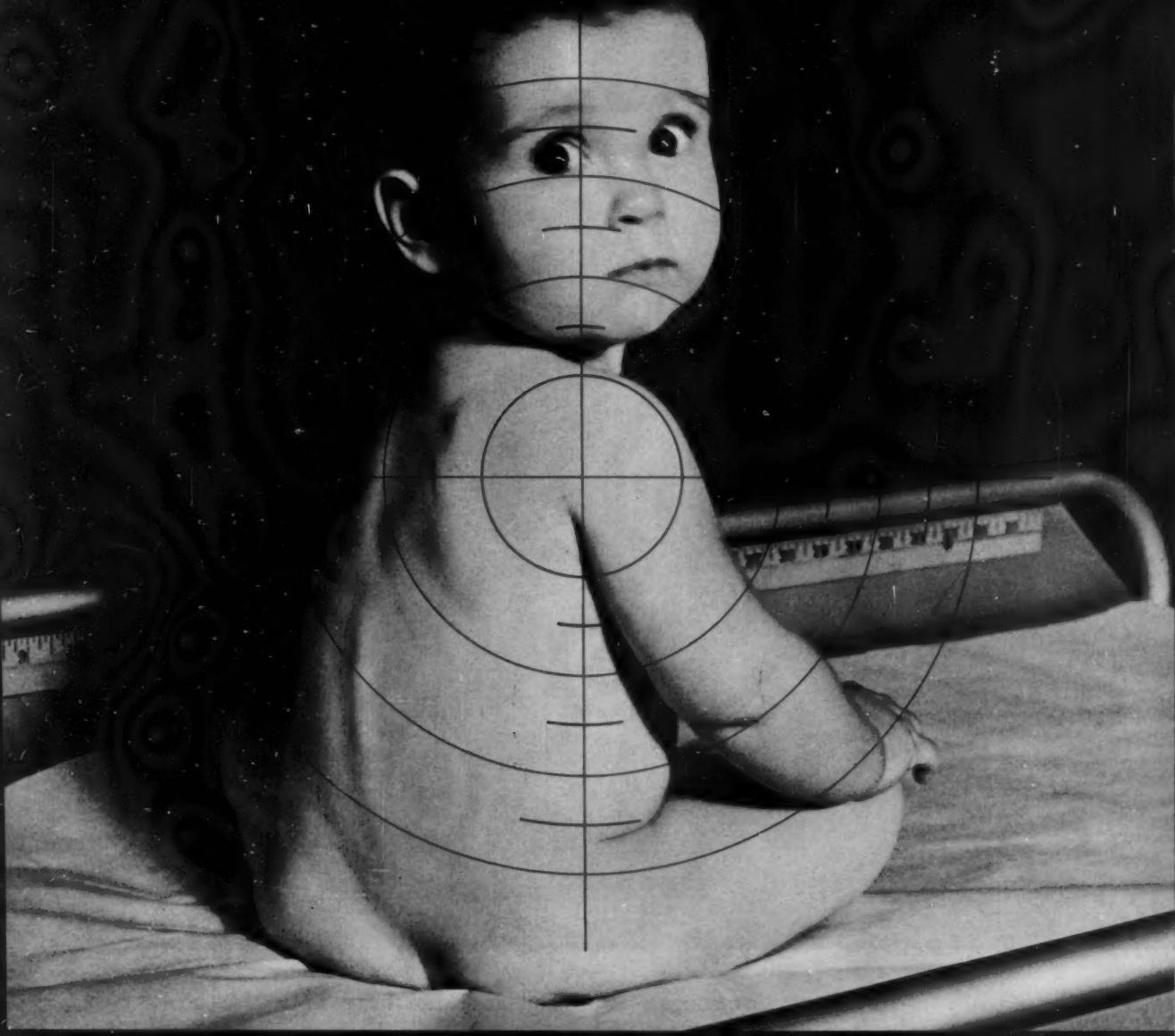
For additional information,
write Professional Services,
Merck Sharp & Dohme, West Point, Pa.

1. Talbott, J. H.: Gout, New York, Grune & Stratton, 1957, pp. 162, 163.
2. Talbott, J. H.: Gouty arthritis, Minn. Med. 42:1044, Aug. 1959.
3. Talbott, J. H.: Recognition and treatment of gouty arthritis, Current Medical Digest 26:57, Nov. 1959.



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Target for Dermatoses

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COR-TAR-QUIN™ is for babies—and for any patient in whom low resistance, refractoriness to treatment, or risk of complications puts a premium on fast, dependable response.

Thoroughly established in dermatologic practice, COR-TAR-QUIN is one of the most sophisticated topical preparations available today . . . a unique combination of anti-inflammatory hydrocortisone, anti-infective diiodohydroxyquinoline, and keratolytic tar incorporated in the exclusive ACID MANTLE® vehicle that potentiates active ingredients and speeds heal-

ing by restoring and maintaining the protective mantle of acidity characteristic of healthy skin.

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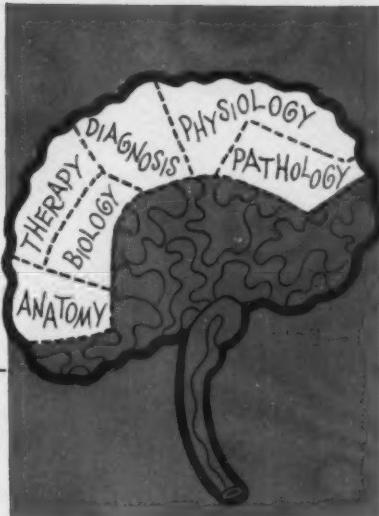
CREME pH 5.0 LOTION

1% diiodohydroxyquinoline with 1%, ½% or 1% micronized hydrocortisone alcohol and 2% liquor carbonis detergens in the exclusive ACID MANTLE® vehicle.



WORLD LEADER IN DERMATOLOGICALS

DOME CHEMICALS INC.
New York • Los Angeles



Mediquiz

These questions were prepared especially for Medical Times by the Professional Examination Service, a division of the American Public Health Association. Answers will be found on page 212a.

1. It has been fairly well established clinically and experimentally that migraine headache is related to:

- A) Liberation of noradrenalin into the blood stream.
- B) Liberation of adrenalin into the blood stream.
- C) Liberation of histamine-like substances from tissues.
- D) Release of serotonin-like substances.
- E) Cranial vasodilatation.

2. A radioactive substance considered by many to be the treatment of choice in polycythemia vera is:

- A) Co-60.
- B) Au-198.
- C) I-131.
- D) I-130.
- E) P-32.

3. One of the characteristic features of paralysis agitans is:

- A) Loss of touch sensation.
- B) Loss of pain and temperature sense.
- C) Dysphasia.
- D) Absence of mental deterioration.
- E) Urinary and bowel incontinence.

4. Pleural effusion in a young adult is most often the result of:

- A) Pulmonary infarction.
- B) Tuberculosis.
- C) Rheumatic fever.

- D) Neoplasm.
- E) Pleurodynia.

5. Clinical signs that give rise to a suspicion of the presence of porphyria are:

- A) Neurological disorders, abdominal pain, and sensitivity to sunlight.
- B) Colicky flank pain, polyuria, lassitude.
- C) Hypertension, glycosuria, and ascites.
- D) Hysteria, syncope, and hypotension.
- E) Atrophic skin, tremor of the hands, and arthralgia.

6. Secondary carcinoma of the liver develops most frequently when the primary carcinoma is located in the:

- A) Lung.
- B) Stomach.
- C) Kidneys.
- D) Pancreas.
- E) Adrenals.

7. The most common form of cirrhosis of the liver is:

- A) Cardiac.
- B) Syphilitic.
- C) Obstructive Biliary.
- D) Laennec's.
- E) Hanot's.

8. Of the following, the most frequent malignant tumor of the stomach is:

- A) Carcinoid.

Concluded on page 86a

when the rheumatic disorder is more than salicylates alone can control...
...and the condition requires less than steroids alone



wider latitude in adjusting dosage
for better tolerated therapy

ARISTOGESIC allows an exceptionally wide latitude in adjusting dosage to the lowest effective level for relief of chronic—but less severe—pain of rheumatic origin. Combining the anti-inflammatory effects of **ARISTOCORT®** Triamcinolone with the analgesic action of a highly potent salicylate, **ARISTOGESIC** permits therapy at dosages substantially lower than generally required for either agent alone. The lower dosages permit well-tolerated therapy for long periods of time and reduce the possibility of side effects.

Aristogesic® CAPSULES

Steroid-Analgesic Compound 600 mg.

Indications: Mild to moderate cases of rheumatoid arthritis, tenosynovitis, synovitis, bursitis, spondylitis, myositis, fibrositis, neuritis, and certain muscular strains.

Dosage: Average initial dosage: 2 capsules 3 or 4 times daily. Maintenance dosage to be adjusted according to response.

Precautions: All precautions and contraindications traditional to corticosteroid therapy should be observed. The amount of drug used should be carefully adjusted to the lowest dosage which will suppress symptoms. Discontinuance of therapy must be carried out gradually after patients have been on steroids for prolonged periods.

Each **ARISTOGESIC** Capsule contains:

ARISTOCORT Triamcinolone	0.5 mg.
Salicylamide	325 mg.
Dried Aluminum Hydroxide Gel	.75 mg.
Ascorbic Acid	20 mg.

Supply: Bottles of 100 and 1,000.



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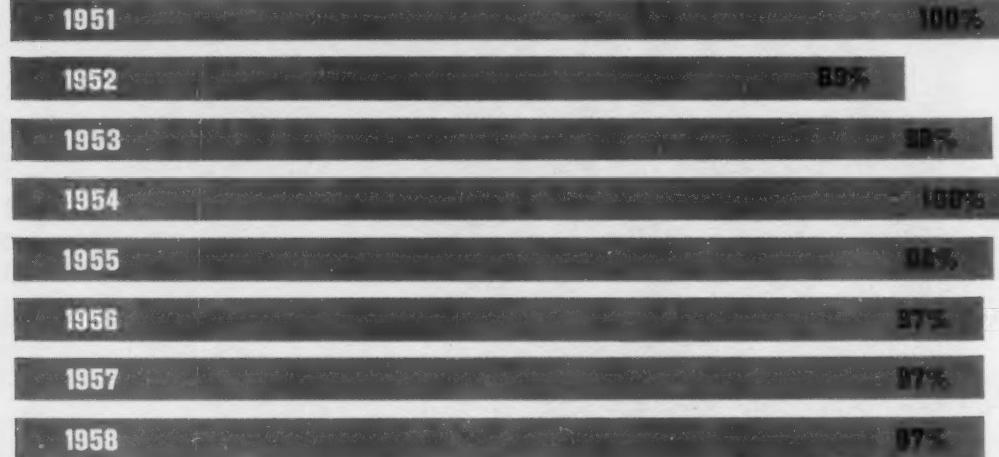
**VIRTUALLY
NO
DECREASE
IN
STAPHYLOCOCCAL
SENSITIVITY**

OVER AN 8-YEAR SPAN...TO

CHLOROMYCETIN®

(chloramphenicol, Parke-Davis)

IN VITRO SENSITIVITY OF PYOGENIC STRAINS OF STAPHYLOCOCCI TO CHLOROMYCETIN OVER A PERIOD OF EIGHT YEARS*



Statistics were gathered over almost a decade on 329 children with staphylococcal pneumonia; 1,663 sensitivity tests were performed.

*Adapted from Rebhan, A. W., & Edwards, H. E.: *Canad. M. A. J.* 82:513, 1960.

CHLOROMYCETIN (chloramphenicol, Parke-Davis) is available in various forms, including Kapseals® of 250 mg., in bottles of 16 and 100.

CHLOROMYCETIN is a potent therapeutic agent and, because certain blood dyscrasias have been associated with its administration, it should not be used indiscriminately or for minor infections. Furthermore, as with certain other drugs, adequate blood studies should be made when the patient requires prolonged or intermittent therapy.

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Cynal

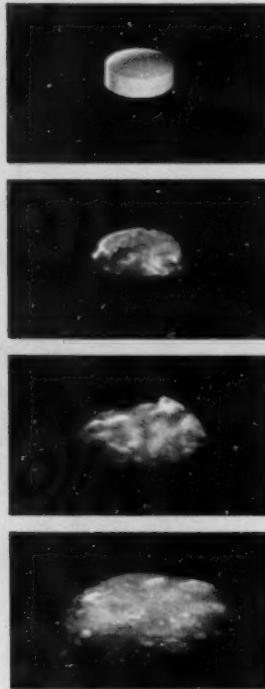
Cynal, the new modern approach to vitamin B₁₂ therapy, results in a better patient response through L. B. 12, a unique aid to vitamin B₁₂ absorption. L. B. 12 is vitamin B₁₂ adsorbed on a special resin vehicle providing more than 5-fold the usual oral absorption of vitamin B₁₂.¹ Cynal therapy aids in stimulating appetite, increasing food intake and helps insure healthy growth.

A single dose of Cynal provides not only generous amounts of vitamin B₁₂ but also vitamins B₁ and B₆ as valuable adjuncts to absorption² and body metabolism.

LLOYD BROTHERS, INC.

CINCINNATI 3, OHIO

5-fold ORAL vitamin B₁₂ absorption...plus tasty "Cherro-Chew" tablets which dissolve on the tongue or are easily crushed on a spoon



Cynal

Cynal is prepared in "Cherro-Chew" tablets for easy and pleasant administration. Soft, tasty cherry-flavored tablets can be dissolved on the tongue, chewed or swallowed whole. For liquid administration, crushed Cynal tablets dissolve readily in water.

EACH SOFT TABLET CONTAINS:

Thiamine mononitrate (vitamin B ₁)	10 mg.
Vitamin B ₁₂ (as L. B. 12*)	25 mcg.
Pyridoxine hydrochloride (vitamin B ₆)	5 mg.
*Lloyd's absorption-enhancing complex of vitamin B ₁₂ (B ₁₂ from Cobalamin Concentrate).	

DOSE: One tablet per day.

SUPPLIED: Bottles of 50 tasty Cherro-Chew tablets.

REFERENCES:

1. Chow, B. F.: *Gerontologia* 2:213-221, 1958.
2. Chow, B. F., et al.: *Am. J. Clin. Nutrition* 6:386, 1958.



Cartoon idea by pharmacist Emil Magdalener

Many of you may have seen a recent cartoon depicting a midnight scene in front of a pharmacy. A woman is pounding on the door and the pharmacist is leaning out the window of his apartment over the store. "Open up," shouts the woman. "My husband is sick and I need a stamp so I can send this prescription to the mail order house."

The drug that always fails is the drug that isn't there

Far-fetched? Perhaps, but there are those who would have us believe that our present system of drug distribution is inefficient and costly, and should be replaced by presumably more efficient and cheaper centralized or bureaucratic methods. Disregarding the probable political philosophy behind these suggestions, consider what a marvelously intricate and efficient system of drug distribution we have in this country. • From the laboratories of the manufacturers comes a steady stream of new and better drugs for your patients. Warehoused and stocked by drug wholesalers, these products are available in over 53,000 pharmacies scattered across the length and breadth of our land. And woe to the pharmacist who hasn't been provided with yesterday's laboratory discovery for your use in treating a patient today. • The economists speak of "utility of time" and "utility of place." We simply say that you can confidently prescribe *what* you choose, *when* it is needed, *wherever* your patient may be.

This message is brought to you by the producers of prescription drugs as a service to the medical profession. For additional information, please write Pharmaceutical Manufacturers Association, 1411 K Street, N.W., Washington 5, D.C.

NorfexTM
orphenadrine citrate

relieves
muscle spasm
with selective
spasmolytic
action

**Hits
the
spot...**

indicated in all types of muscle spasm, including post-traumatic and tension spasm

without impairment of general muscle tonus

Restores mobility quickly and relieves associated pain by prompt relaxation of only the muscle in spasm. Prolonged action and potency provide all-day and all-night benefits...permitting uninterrupted sleep...facilitating rehabilitation.



standard dosage

for all adults regardless of age, sex, or weight:
1 tablet (100 mg.) b.i.d.—easily remembered...offering better patient cooperation.

NorfexTM for prompt, safe spasmolytic action

*Trademark U.S. Patent No. 2,567,351.
Other patents pending.

Northridge, California



New Hygroton® Geigy

brand of chlorthalidone

longest in action... smoothes in effect

in hypertension and edema

greater loss of sodium
lesser loss of potassium

A new antihypertensive-saluretic, Hygroton, now enables still more effective control of hypertension and edema.

more evenly sustained therapeutic response
Because it is more prolonged in action than any other diuretic.¹ Hygroton affords a smoother, more evenly sustained response.

more nearly pure natriuretic effect
Hygroton produces only minimal potassium loss . . . affords a better sodium-potassium ratio than other saluretics.³

more liberal diet for the patient
As a rule, with Hygroton, restriction of dietary salt is unnecessary.

more convenience and economy
For maintenance therapy three doses per week suffice to manage the vast majority of cases.²

in arterial hypertension
Sustained control without side reactions.

in edematous states
Copious diuresis without electrolyte imbalance.

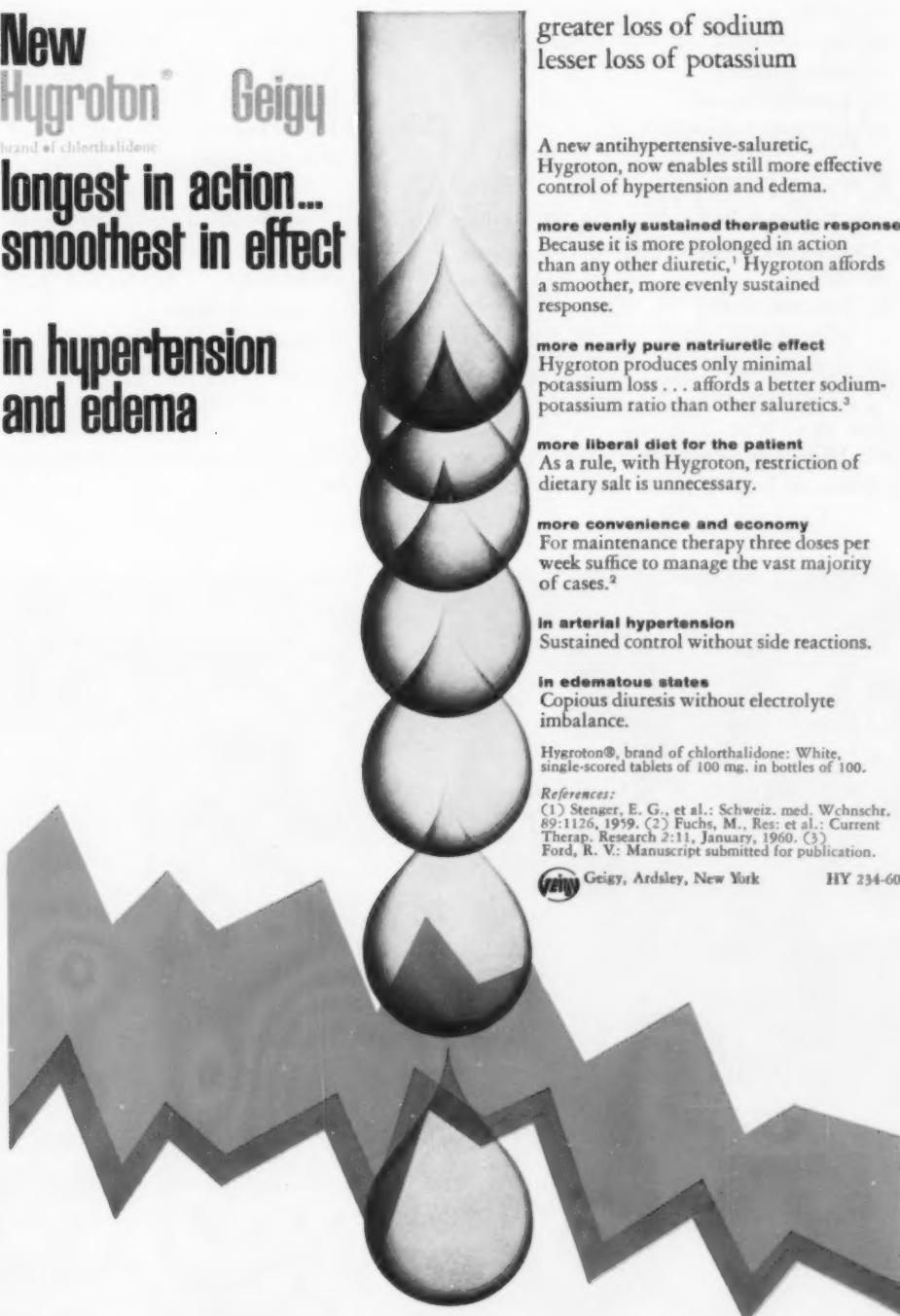
Hygroton®, brand of chlorthalidone: White, single-scored tablets of 100 mg. in bottles of 100.

References:
(1) Stenger, E. G., et al.: Schweiz. med. Wochenschr. 89:1126, 1959. (2) Fuchs, M., Res: et al.: Current Therap. Research 2:11, January, 1960. (3) Ford, R. V.: Manuscript submitted for publication.



Geigy, Ardsley, New York

HY 234-60



Mediquiz

Concluded from page 79a

- B) Myxosarcoma.
- C) Fibrosarcoma.
- D) Leiomyosarcoma.
- E) Scirrhous carcinoma.

9. When used for the treatment of bacterial meningitis, crystalline pancreatic deoxyribonuclease should be administered:

- A) Orally.
- B) Subcutaneously.
- C) Intrathecally.
- D) Intravenously.
- E) Intramuscularly.

10. Ventricular tachycardia developing in the course of heart block is best treated with:

- A) Digitalis.
- B) Isuprel.
- C) Quinidine.
- D) Urecholine.
- E) Procaine.

11. The carcinoid syndrome usually includes:

- A) Bone pain.
- B) Episodic flushing.
- C) Polyuria.
- D) Constipation.
- E) Coarse tremor.

12. Proof that an ulcer is primary syphilis is best obtained by:

aqueous
natural high potency
vitamin A
in ACNE
chronic eczemas
dry, itchy, scaly skin

aquasol A capsules

- A) Darkfield examination of surface serum.
- B) Biopsy.
- C) The Kahn test.
- D) The VDRL test.
- E) The Treponema immobilization test.

13. The earliest diagnosis of congenital syphilis may be made by:

- A) Darkfield examination of umbilical vein scrapings.
- B) Recognition of snuffles.
- C) X-rays of the long bones.
- D) Serological tests.
- E) X-rays of the teeth.

14. Tall T waves in the precordial leads of an electrocardiogram are found in:

- A) Anterior myocardial infarction.
- B) Posterior myocardial infarction.
- C) Hypernatremia.
- D) Hypercalcemia.
- E) Paroxysmal auricular tachycardia.

15. A high incidence of false positive serologic tests for syphilis occurs:

- A) In acute malaria.
- B) During pregnancy.
- C) During an uncompensated 'stress syndrome.'
- D) Following vaccination for yellow fever.
- E) In serum sickness.

(Answers on page 212a)

VOLUME 2 MEDIQUIZ READY

A second volume of 150 MediQuiz questions, answers and references compiled by the Professional Examination Service, Division of the American Public Health Association is now available in booklet form for \$1 per copy. The supply of booklets is limited. To be certain you get your copy, send your dollar now to: Professional Examination Service, Department 23-B, American Public Health Association, 1790 Broadway, New York 19, N. Y. Specify "Volume 2." (A few copies of Volume 1 are available at \$1 each for those who missed out on this valuable review aid.)

aquasol A capsules

more readily, rapidly, completely reaches the affected tissues because there is "greater diffusibility of vitamin A from aqueous dispersion into the tissues."¹

aquasol A capsules — the most widely used of all oral vitamin A products, for these good reasons . . .

aqueous vitamin A is more promptly, more fully, more dependably absorbed and utilized.

natural vitamin A is more effective because it is directly utilized physiologically.

well tolerated — fish taste, odor and allergens are removed by special processing.

economical — less dosage is needed and treatment time is sharply reduced as compared to oily vitamin A.

three separate high potencies (water-solubilized natural vitamin A) per capsule:

25,000 U.S.P. units

50,000 U.S.P. units

100,000 U.S.P. units

bottles of 100, 500 and 1000 capsules

Samples and literature available upon request.

u. s. vitamin & pharmaceutical corporation

Arlington-Funk Laboratories, division
250 East 43rd Street, New York 17, N. Y.

1. Davidson, D. D. and Sobel, A. E.:
J. Invest. Derm. 12:221, 1949.

IN EMOTIONALLY PROJECTED
SMOOTH-MUSCLE SPASM...

Prompt, Profound
Protection...at both
ends of the vagus

PRO-BANTHINE® with DARTAL®

Professional reliance on the therapeutic proficiency of Pro-Banthine in functional gastrointestinal disorders has made it the most widely prescribed anticholinergic.

The consistent relief of emotional tensions afforded by Dartal makes this well-tolerated tranquilizer a rational choice to support the antispasmodic action of Pro-Banthine in emotionally influenced smooth-muscle spasm.

These two reliable agents combined as Pro-Banthine with Dartal consistently control both disturbed mood and disordered motility when emotional disturbances project themselves through the vagus to provoke such gastrointestinal dysfunctions as gastritis, pylorospasm, peptic ulcer, spastic colon or biliary dyskinesia.

USUAL ADULT DOSAGE:

One tablet three times a day.

SUPPLIED as aqua-colored, compression-coated tablets containing 15 mg. of Pro-Banthine (brand of propantheline bromide) and 5 mg. of Dartal (brand of thiopropazate dihydrochloride).

G. D. SEARLE & CO.
Chicago 80, Illinois
Research in the Service of Medicine





MODERN MEDICINALS

These brief résumés of essential information on the newer medicinals, which are not yet listed in the various reference books, can be pasted on file cards. This file can be kept by the physician for ready reference.

Bontril Timed, G. W. Carnrick Company, Newark, New Jersey. Triple-release, triple-layer tablets available in two forms: #1, yellow, white and orange tablets each containing 27 mg. carboxyphen and 20 mg. butabarbital; #2, green, white and orange tablets each containing 40 mg. carboxyphen and 30 mg. butabarbital. Indicated for the treatment of overweight or obesity in adults. *Dose:* One tablet before breakfast. It is suggested that physician initiate dosage with tablet #1. If results indicate a need for increased dosage, transfer to #2. *Sup:* Either form in bottles of 50.

Carbo-Dome, Dome Chemicals Inc., New York, New York. Creme or lotion (pH 4.6) containing liquor carbonis detergens 5% in the exclusive Acid Mantle vehicle. Indicated in infantile eczema, nummular eczema, seborheic dermatitis, psoriasis, atopic dermatitis, neurodermatitis, dyshidrosis and other chronic recalcitrant dermatoses. *Use:* Apply morning and night to affected areas. *Sup:* Creme in 1 oz. tubes, lotion in 2 oz. bottles.

Compligen, Pitman-Moore Company, Indianapolis, Indiana. Multiple antigen vaccine containing aluminum phosphate adsorbed diphtheria toxoid, tetanus toxoid, poliomyelitis vaccine and pertussis vaccine. Indicated for the primary immunization of infants and children against tetanus, diph-

theria, pertussis, and the three types of virus which cause paralytic poliomyelitis. Recommended for infants and children one month to five years of age when the use of a multiple antigen vaccine is not contraindicated. *Dose:* Primary immunization consists of 3 intramuscular injections of 1 cc. each at intervals of four to six weeks. The initial three injections provide full immunizing doses of diphtheria and tetanus toxoids and twelve protective units of pertussis vaccine. A fourth 1 cc. injection is given six to twelve months after the initial three doses to complete the immunization schedule for poliomyelitis and to produce more solid immunity to the other diseases. *Sup:* Vials of 9 cc.

Cotazym, Organon Inc., West Orange, New Jersey. Capsules, each containing 2000 Organon units of lipase (steapsin), having digestive power for 17 Gm. dietary fat; trypsin, having digestive power for 34 Gm. dietary protein; amylase, having digestive power for 40 Gm. dietary starch; plus other enzymes from whole hog pancreas. Indicated in all conditions where fat digestion is inadequate due to pancreatic insufficiency; pancreatectomy, chronic pancreatitis, cystic fibrosis, steatorrhea, carcinoma of pancreas. *Dose:* Based on fat in diet. "Cover" each meal and snack with one to three capsules. *Sup:* Bottles of 100.

Continued on page 98a



IN COLDS, SINUSITIS, RHINITIS

Rynatan® promises just two things:

1. to thoroughly decongest ^{1,2,3,4,5,6,7}
2. with remarkable
lack of drowsiness ^{2,3,4,5,6,7}

**RYNATAN has more published clinical proof of effectiveness,
safety and long action* than any other oral decongestant.**

1. Report on a New Repository Principle, Med. Sc. 3:376, 1958.
2. Steller; R. E.; DeMar, E. A., and Schwartz, F. R.: Indust. Med. & Surg. 28:362, 1959.
3. Villanyi, L., and Stillwater, R. B.: E.E.N.T. Monthly 38:650, 1959.
4. Lawler, E. G., and Limperis, N. M.: Clin. Med. 5:1669, 1958.
5. Simon, D.: Clin. Med. Sept., 1960.
6. Sherwood, H., and Epstein, J.: New York J. Med. 60:1793, 1960.
7. Kile, R. L.: Antibiotic Med. & Clin. Therap. 5:578, 1958.

RYNATAN TABULES keep heads crystal clear for 10-12 hours with a single oral dose. Each tabule contains: Phenylephrine tannate, 25 mg.; Chlorpheniramine tannate, 8 mg.; Pyrilamine tannate, 25 mg. **Adults:** 1 or 2 tabules each 12 hrs. **Children:** Each 12 hrs.—6-7 yrs. $\frac{1}{2}$ tabule; 8-11 yrs. $\frac{1}{2}$ -1 tabule; 12 yrs. and older 1-2 tabules.

RYNATAN SUSPENSION . . . the only long-acting liquid oral nasal decongestant for children. Each 5 cc. contains: Phenylephrine tannate, 5.0 mg.; Chlorpheniramine tannate, 2.0 mg.; Pyrilamine tannate, 12.5 mg. **Children:** Each 12 hrs.—6 mos.-1 yr. $\frac{1}{3}$ tsp.; 2-4 yrs. $\frac{1}{2}$ tsp.; 5-7 yrs. 1 tsp.; 8-11 yrs. 2 tsp.; 12 yrs. and older 2-3 tsp. Adjust dosage as required.

*All Rynatan-Rynatuss products employ

NeiAer



AND NOW...YOUR PATIENTS CAN HAVE ALL THE BENEFITS OF RYNATAN PLUS COUGH CONTROL, IN

NEW PRODUCT **RynatussTM**

relieves not only the cough...but clears the entire breathing apparatus all-day or all-night with a single oral dose*

action: Rynatuss provides—

- **an effective antitussive** to inhibit nonproductive cough. It is non-narcotic, thus does not possess the depressive, constipating or habituating properties inherent in such antitussive agents as codeine. However, experimental tests have shown that the antitussive in Rynatuss is 1½ times as active as codeine in controlling the cough reflex.
- **a superior antihistamine** to reduce bronchial secretion and to counteract allergic reactions.
- **a potent vasoconstrictor** to decongest mucous membrane and alleviate postnasal drip.
- **a reliable bronchodilator** to aid in the removal of accumulated secretions.

indications:

Coughs, mild or severe, acute or chronic, in head or chest congestion, colds, sinusitis, bronchitis.

RYNATUSS TABULES. Each tabule contains: Carbetapentane tannate (non-narcotic), 60 mg.; Chlorpheniramine tannate, 5 mg.; Ephedrine tannate, 10 mg.; and Phenylephrine tannate, 10 mg. **Adults:** 1 to 2 tabules each 12 hours. **Children:** 2 to 6 years old ½ tabule each 12 hours; 6-12 yrs. 1 tabule each 12 hours.

RYNATUSS SUSPENSION. Each 5 cc. contains: Carbetapentane tannate, 30 mg.; Chlorpheniramine tannate, 4 mg.; Ephedrine tannate, 5 mg.; and Phenylephrine tannate, 5 mg. **Children** under 6 years old ¼ to ½ tsp. twice daily; 6 years or older 1 or 2 tsp. twice daily.

DURABOND[®], the only long-acting principle proven by radioactive tracer studies in human blood levels. (Bogner, R. L., and Moses, C.: Evaluation of a Sustained Release Principle in Human Subjects Utilizing Radioactive Technique, to be published, 1960.)

IRWIN, NEISLER & CO. • DECATUR, ILLINOIS

*a new
high-performance
penicillin molecule*

provides the physician with an added measure of assurance

provides the patient with an added measure of therapeutic effectiveness

DARCIL

Efficiently absorbed

Peak blood levels rapidly induced

High peak oral penicillin blood levels

Reproducible blood levels

High urinary excretion

Lethal in vitro to many Staph. strains resistant to other penicillins

DARCIL (phenethicillin potassium) is *rapidly* and *well* absorbed from the gastrointestinal tract. As a result, tissues are likely to be supplied with adequate penicillin, despite individual patient-variation in the absorption of drugs. Blood concentrations of DARCIL directly reflect dosage levels, permitting adjustment of dosage to severity of infection.



A Century of
Service to Medicine

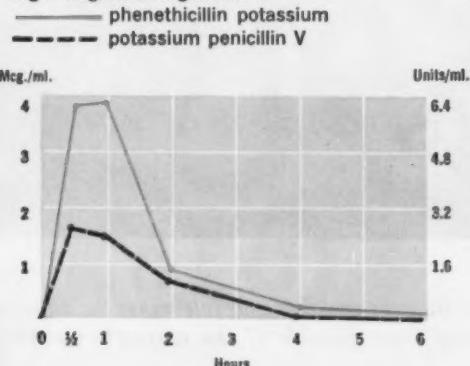
*Many strains of *Staph. aureus* susceptible*
*Morigi et al.¹ administered phenethicillin potassium to 47 patients with a variety of bacterial infections caused by penicillin-susceptible organisms. Twenty strains of *Staph. aureus* were isolated from pre-therapy cultures; 19 were highly susceptible to phenethicillin potassium *in vitro*: one was resistant. Of 47 patients treated, 38 were cured; 6 improved, and 3 were unresponsive.*

Prompt regression of symptoms

Cronk et al.² report prompt regression of symptoms and disease in 38 patients with diseases caused by penicillin-susceptible organisms. *The authors conclude that further experience will undoubtedly demonstrate the antibiotic to be highly efficacious in all infections caused by susceptible organisms.*

References: 1. Morigi, E.M.E., et al.: Antibiotics Annual 1959-1960 Antibiotica Inc., New York, N.Y. pp. 127-132. 2. Cronk, G.A., et al.: *Ibid.* pp. 133-145. 3. Wright, W.: Reported in Morigi, E.M.E., et al.: *Ibid.* 127-132.

Average penicillin serum concentrations³ following a single 250-mg. dose



Average penicillin urine concentrations³ following a single 250-mg. dose

	0-6 Hrs.	6-12 Hrs.	24 Hrs.
phenethicillin potassium	30.3%	8.4%	0%
potassium penicillin V	18.2%	0.2%	0%

DARCIL®

*Penicillin-152 Potassium
 phenethicillin potassium, Wyeth*

DARCIL is a new penicillin molecule, designated chemically as potassium *α*-phenoxyethyl penicillin. It is remarkably stable in acid solutions; is lethal *in vitro* to clinical isolates of certain strains of staphylococci resistant to other penicillins; has a lower CD₅₀ (median curative dose) against certain organisms than the natural penicillins; and is efficiently absorbed from the gastrointestinal tract, yielding early high penicillin serum levels and urine excretion levels.

DARCIL is active against streptococci (Groups A, B, C, and D), Diplococcus pneumoniae, Neisseria and *Staphylococcus aureus*, including some strains of that organism which are resistant to other penicillins. It is bactericidal in serum concentrations obtainable on oral administration. As is the case with other penicillins, bacterial resistance develops slowly.

Indications

DARCIL is recommended in the treatment of the following bacterial infections due to penicillin-susceptible organisms:

Respiratory Tract Infections: acute pharyngitis, septic sore throat, tonsillitis, otitis media, laryngitis, cervical adenitis, bronchitis and lobar or bronchopneumonia.

Skin, Soft Tissue and Surgical Infections: erysipelas, cellulitis, lymphangitis, wound infections and pyoderma.

Urinary Tract Infections: gonorrhea, acute and chronic cystitis, pyelonephritis and prostatitis.

Other Infections: scarlet fever and puerperal sepsis.

The clinical utility of DARCIL in the treatment of syphilis, endocarditis, or meningitis has not been established.

Dosage

Recommended Dosage: 125 mg. (200,000 units) or 250 mg. (400,000 units) three times daily depending on the severity of the infection. Larger doses of 500 mg. (800,000 units) three times daily or 250 mg. every four hours may be used for more severe infections.

Beta-hemolytic streptococcal infections should be treated for at least ten days to prevent the development of acute rheumatic fever.

Precautions

Administration of oral penicillin, in rare instances, may provoke acute anaphylaxis in penicillin-sensitive individuals. Such reactions are more likely to occur in patients with histories of hay fever, asthma, and those who have previously reacted adversely to penicillin. If the use of penicillin is imperative and such reactions occur, the physician should have available resuscitative drugs such as epinephrine, antihistamines, aminophylline, etc., for intravenous administration, and discontinue further use.

Other allergic reactions to oral administration of this penicillin compound are rare. If sensitization occurs, control if possible with antihistamines. If control measures fail, discontinue use.

The use of antibiotics occasionally results in the overgrowth of non-susceptible organisms. If superinfection occurs during therapy, appropriate measures should be taken.

Loose stools have been reported occasionally. Other signs of toxicity are rare.

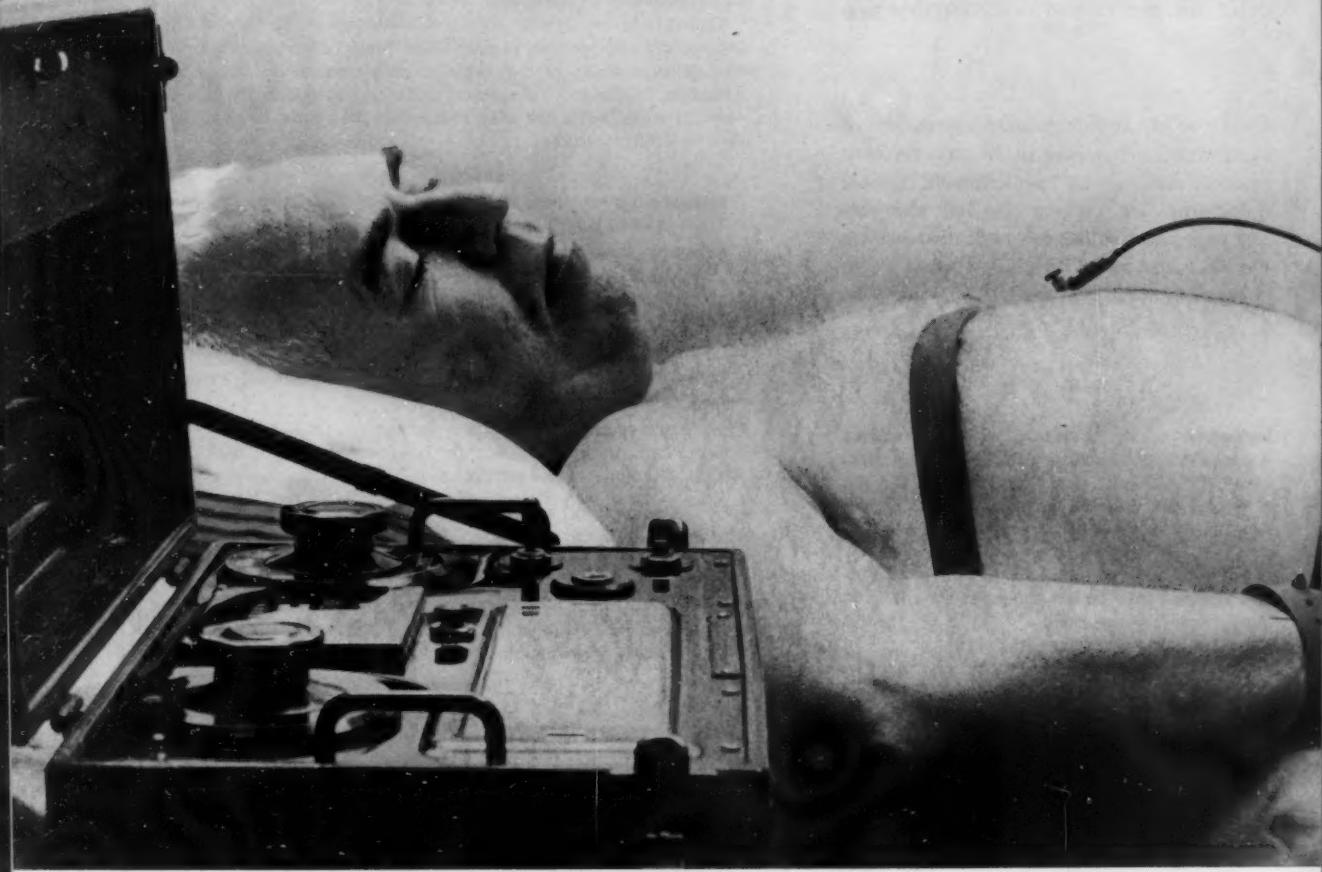
Supplied

DARCIL Tablets, scored; each containing 250 mg. (400,000 units), 125 mg. (200,000 units) phenethicillin potassium; bottles of 36 and 100. DARCIL for Oral Solution; 125 mg. per 5-cc. teaspoonful, bottle of powder to be reconstituted to 60 cc.

Wyeth Laboratories Philadelphia 1, Pa.

[®]Trademark

*"...anxiety is costly to the heart..."*¹



"In at least 80 per cent of the patients seen by the cardiologist, anxiety prolongs and intensifies the physical disorder. For ambulatory patients, meprobamate is believed most suitable of the ataractic agents to [control anxiety]."²

The efficacy and safety margin of EQUANIL (meprobamate, Wyeth) is attested to by hundreds of published clinical studies. EQUANIL is predictable and specific in its effects; pharmacologic actions are not diffuse. EQUANIL is well tolerated. Effects are not cumulative even on prolonged use. Side-reactions are few and usually mild.

1. Waldman, S. and Pelner, L.: Am. Pract. & Digest Treat. 8:1075 (July) 1957. 2. Friedlander, H.S.: Am. J. Cardiology 1:395 (March) 1958.

Detailed Information on

EQUANIL

meprobamate, Wyeth

Indications and Uses: EQUANIL has been proved effective as a skeletal muscle relaxant and in the management of anxiety and tension occurring either alone or as an accompanying symptom-complex to medical disorders. Although not a hypnotic, EQUANIL fosters normal sleep both through its antianxiety and muscle-relaxant properties.

Dosage: Initial and usual adult dose of EQUANIL is 400 mg., given 3 or 4 times daily. This will usually be sufficient in the management of simple anxiety and tension or, adjunctively, in anxiety and tension complicating medical and surgical disorders. Doses above 2400 mg. daily are not recommended, even though higher doses have been used by some investigators. Elderly patients usually tolerate EQUANIL well.

Important: Careful supervision of dose and amount prescribed is advised, especially in those patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons (alcoholics and other severe psychoneurotics) has been reported to result in dependence on the drug. Where excessive dosage has been continued for weeks and months, dosage should be reduced gradually rather than abruptly, since withdrawal of a "crutch" may precipitate withdrawal reactions of greater proportions than those for which the drug was originally prescribed. Abrupt discontinuation of doses in excess of the recommended dose has occasionally resulted in epileptiform seizures.

Side Effects: Serious side effects have rarely been encountered following the administration of EQUANIL. Drowsiness may occur, particularly early in the course of EQUANIL therapy, but, as a rule, disappears as therapy is continued. Should drowsiness persist, it can usually be controlled by decreasing the dose; occasionally it may be desirable to administer central stimulants such as amphetamine or mephentermine sulfate, concomitantly with EQUANIL.

The only serious side effects reported to attend use of meprobamate are rarely encountered allergic reactions. Such response develops, as a rule, in patients who have had only 1 to 4 doses of meprobamate and have not had previous contact with the drug.

Previous history of allergy does not appear to be related to the incidence of reactions. Mild reactions are characterized by an itchy urticarial or erythematous, maculopapular rash, which may be generalized or confined to the groins. Acute non-thrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema and fever have also been reported.

More severe cases, observed only very rarely, may also have fever, fainting spells, angioneurotic edema and bronchial spasms. Treatment consists of the administration of epinephrine, antihistamine and, possibly, hydrocortisone. EQUANIL should be stopped and reinstitution of therapy should not be attempted.

Selected References: The use of meprobamate in cardiovascular disorders has been well documented. Selected references include: 1. Altschul, A., and Billow, B.: New York State J. Med. 57:2361 (July 15) 1957. 2. Eskwith, I.S.: Am. Heart J. 55:621 (April) 1958. 3. Fontanini, F., and Riva, A.: Minerva med. 48:4499 (Dec. 26) 1957. 4. Waldman, S., and Peiner, L.: New York State J. Med. 58:1285 (April 15) 1958. 5. Shapiro, S.: Angiology 8:504 (Dec.) 1957. 6. Dunsmore, R.A., et al.: Am. J. Med. Sci. 233:280 (March) 1957.

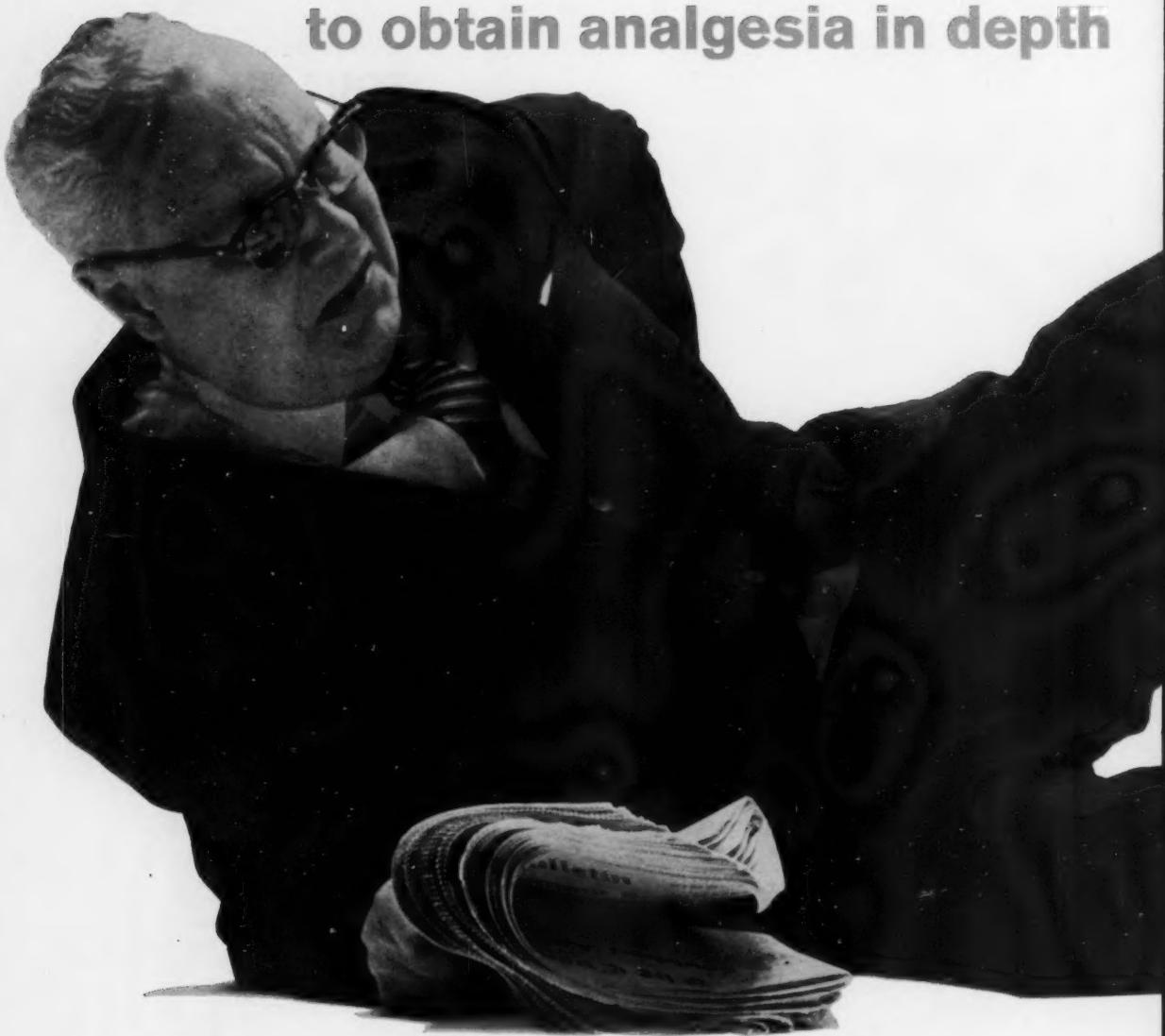
For further information on prescribing and administering EQUANIL see descriptive literature, available on request.

Equanil®
Meprobamate, Wyeth



A Century of Service to Medicine

to obtain analgesia in depth



For your patients in pain, EQUAGESIC fulfills all the requirements of analgesia in depth:

relieves pain especially of musculoskeletal nature

relieves anxiety that magnifies pain and adds to tension

relieves muscle spasm and tension that add pain to pain

With EQUAGESIC, patients benefit from the proved muscle relaxant and anti-anxiety actions of EQUANIL® and the potent, non-narcotic analgesic action of ZACTIRIN®. Wyeth Laboratories Philadelphia 1, Pa.

TABLETS
Equagesic



A Century of Service to Medicine

Detailed Information on

EQUAGESIC®

Meprobamate and Ethoheptazine Citrate
with Acetylsalicylic Acid, Wyeth

COMPOSITION: EQUAGESIC combines the muscle relaxant and antianxiety actions of EQUANIL and the potent, non-narcotic analgesic action of ZACTIRIN. Each tablet contains 150 mg. meprobamate, 75 mg. ethoheptazine citrate (1-methyl-4-carbethoxy-4-phenylhexamethylenimine citrate) and 250 mg. acetylsalicylic acid.

INDICATIONS. EQUAGESIC is an effective and well tolerated anti-anxiety, skeletal-muscle-relaxant analgesic and may be used for relief of pain which is accompanied by either skeletal muscle spasm or tension and anxiety or both.

ADMINISTRATION AND DOSAGE. The usual dosage of EQUAGESIC is one or two tablets three or four times daily as needed for the relief of pain and accompanying skeletal muscle spasm or anxiety.

SIDE EFFECTS. Serious side effects have not been observed following the administration of EQUAGESIC. A small percentage of patients may experience nausea with or without vomiting and epigastric distress. Dizziness occurs but rarely when EQUAGESIC is administered in the recommended dosage. The meprobamate may cause drowsiness which usually disappears with continued therapy. Should drowsiness persist, it can usually be controlled by decreasing the dose.

On rare occasions, meprobamate has caused severe allergic reactions, generally in patients who have had only 1-4 doses of meprobamate without previous contact. Treatment consists of the administration of epinephrine, an antihistaminic and, possibly, hydrocortisone or similar agents. Meprobamate should not be given thereafter.

EQUAGESIC or any of the ingredients used separately in the recommended dosage (ZACTANE, ZACTIRIN, EQUANIL) has not been reported to have caused constipation, change in pupil size, disorientation, and significant degree of tolerance, or untoward effects on the formed elements of the blood or cardiovascular system.

CAUTION. Preparations containing acetylsalicylic acid should be kept out of the reach of children.

Careful supervision of dose and amounts prescribed for patients is advised, especially with those patients with a known propensity for taking excessive quantities of drugs. When excessive dosage has been continued for weeks or months, dosage should be withdrawn gradually.

EQUAGESIC should not be given to individuals with a history of sensitivity or severe intolerance to acetylsalicylic acid or meprobamate.

Instances of accidental or intentional significant overdosage with ethoheptazine combined with acetylsalicylic acid (ZACTIRIN) have been reported to produce mild depression, drowsiness, and a feeling of light-headedness, with uneventful recovery. Appropriate therapy of the signs and symptoms as they appear is the only recommendation possible at this time. Overdosage with ethoheptazine combined with acetylsalicylic acid (ZACTIRIN) would probably produce the usual symptoms and signs of salicylate intoxication. Observation and treatment should include induced vomiting or gastric lavage, specific parenteral electrolyte therapy for keto-acidosis and dehydration, watching for evidence of hemorrhagic manifestations due to hypoprothrombinemia which, if it occurs, usually requires whole blood transfusions.

When given to patients with suicidal tendencies, caution should be exercised and the drug given in small quantities. Where excessive doses have been taken, therapy is symptomatic and may include central stimulants, pressor amines and careful observation. Sleep ensues rapidly after excessive dosage but is normal in character, with blood pressure, pulse and respiratory rates reduced to basal levels.

For further information on prescribing and administering EQUAGESIC, see descriptive literature, available on request.

Modern Medicinals

Continued from page 89a

Coumadin, Endo Laboratories, Inc., Richmond Hill, New York. New safety feature added to anticoagulant COUMADIN tablets—each tablet will be pressed with the specific milligram potency to protect patients against accidental overdosage. Available in strengths of 2 mg., 5 mg., 7½ mg., 10 mg., and 25 mg., all in bottles of 25, 100 and 1000.

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Equagesic, Wyeth Laboratories, Philadelphia, Pennsylvania. Scored, multilayered tablets containing 150 mg. meprobamate, 75 mg. ethoheptazine citrate, and 50 mg. acetylsalicylic acid each in a separate layer. Indicated in the relief of pain accompanied by either skeletal muscle spasm or tension and anxiety or both. *Dose:* 1 or 2 tablets 3 or 4 times daily. *Sup:* Bottles of 50.

Kynex Acetyl Pediatric Drops, Lederle Laboratories Division, American Cyanamid Co., Pearl River, New York. Each cc. of red cherry-flavored syrup contains N'acetyl sulfamethoxypridazine equivalent to 125 mg. sulfamethoxypyridazine, 0.8 mg. methylparaben and 0.2 propylparaben. Indicated for the treatment of genito-urinary and upper respiratory infection, bacillary

dysenteries and surgical and soft tissue infections due to sulfonamide sensitive organisms. *Dose:* Initial daily dosage is 250 mg. for each 20 pounds of body weight which, at the option of the physician, may be administered in divided doses. *Sup:* Plastic squeeze bottles of 10 cc.

Medrol Medules, The Upjohn Company, Kalamazoo, Michigan. New dosage form, containing in each sustained action capsule 4 mg. methylprednisolone. Indications are the same as for Medrol including rheumatoid arthritis, disseminated lupus erythematosus and allergic diseases. *Dose:* Because of the sustained action of the Medules, it may be possible to reduce the total daily dose by as much as 1/3 depending upon clinical response. The majority of patients can be maintained on a twice-a-day dosage schedule, amount depending upon severity of condition. *Sup:* Bottles of 30 and 100.

Naqua, Schering Corp., Bloomfield, New Jersey. Tablets, containing either 2 mg. or 4 mg. trichlormethiazide. Indicated for control of edema associated with congestive heart failure, nephrotic syndrome, hepatic cirrhosis, edema and toxemia of pregnancy, drug induced edema and premenstrual tension. *Dose:* 2 to 4 mg. once a day after breakfast. *Sup:* Bottles of 100 and 1000.

Penite Sustained, G. W. Carnrick Co., Newark, New Jersey. Red and clear capsules, each containing 0.9 mg. nitroglycerin, 30.0 mg. penaerythritol tetranitrate, and 0.12 mg. reserpine. Indicated for the prevention of angina pectoris attacks. *Dose:* One capsule before breakfast and 1 at bedtime. *Sup:* Bottles of 50.

Concluded on page 104a

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1. Schwab, R. S. and England, A. C.: *J. Chron. Dis.* 8:488 (Oct.) 1958.
2. Schwab, R. S.: *Geriatrics* 14:545 (Sept.) 1959.
3. Doshay, L. J. et al.: *J.A.M.A.* 160:348 (Feb. 4) 1956.

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Strep-Combioptic Steraject, Pfizer Laboratories Division of Chas. Pfizer & Co., Inc., Brooklyn, New York. Single-dose, disposable cartridges, complete with individual sterile needles, each 2 cc. cartridge containing 0.5 Gram of streptomycin sulfate and 400,000 units of procaine penicillin G crystalline. Indicated for treatment of certain mixed bacterial infections. *Dose:* Usual adult dosage is 1 or 2 injections daily, depending upon the nature and severity of the

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Vitron-C, Smith, Miller & Patch, Inc., New York, New York. Scored, raspberry-flavored tablets, each containing 200 mg. ferrous fumarate and 125 mg. ascorbic acid. Indicated for iron deficiency anemia. *Dose:* 1 or 2 tablets daily as directed by physician. Children, $\frac{1}{2}$ tablet daily. *Sup:* Bottles of 100 and 1000.

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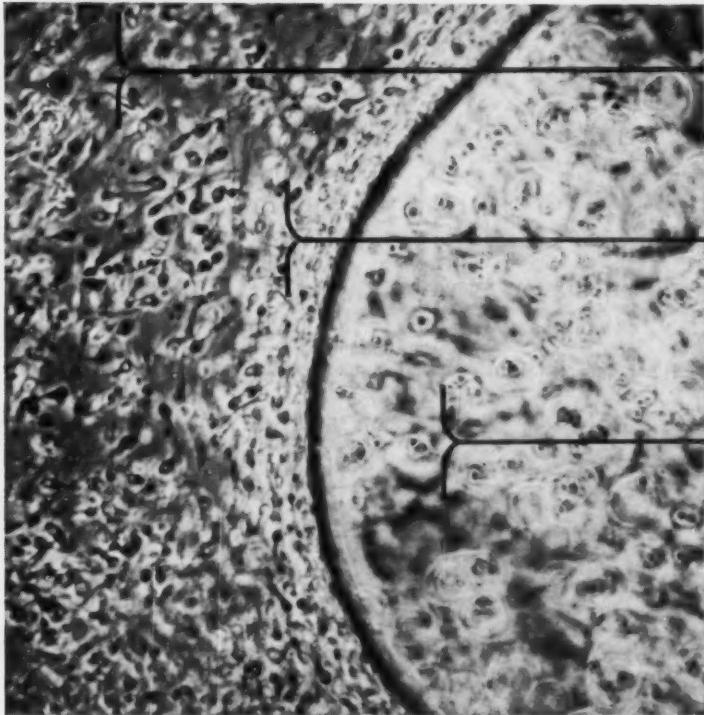
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1. Goldstein, L. Z.: Obst. & Gynec. 10:133 (Aug.) 1957.
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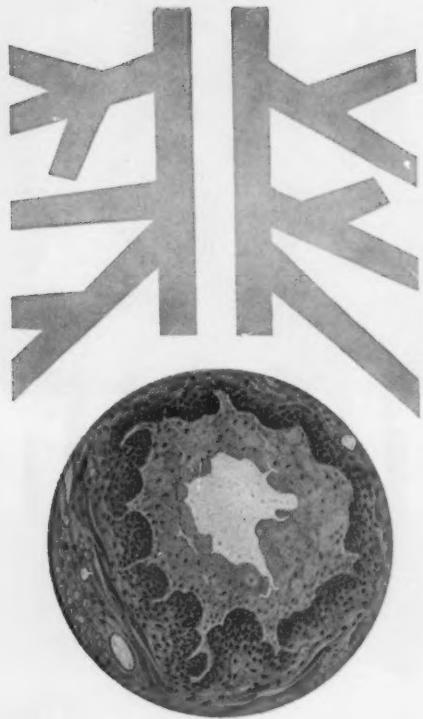
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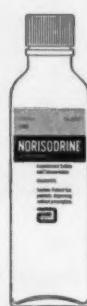
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¹Frohman; I. P.; Washington, D.C.; communication to the Medical Department, Abbott Laboratories, Jan. 16, 1960.

LANGUAGE BEHAVIOR OF . . .

Mentally Retarded Children

RICHARD L. SCHIEFELBUSCH, Ph.D.

HOWARD V. BAIR, M.D.

Parsons, Kansas

This article attempts to describe briefly the preliminary phases of a long-range study of communicative behavior of retardates, with special emphasis upon the development of treatment methods. The authors feel that the rationale and the methods of procedure should interest medical practitioners who see and advise parents regarding the behavior of retarded children.

Language deficiencies of mentally retarded children are almost as commonly recognized as their deficient intellectual functioning. Clinicians who have carefully examined retardates report that they perform poorly in regard to both receptive and motor speech. They seem also to be deficient in vocabulary, sentence structure, conceptual and abstract language skills, and the precise manipulation of speech sounds.¹

Even though the deficiencies are widely recognized, the descriptions, as a rule, have not been carefully made; and the attempts at remedial measures appear to have been half-hearted and infrequent. We seem almost to have regarded the communication behavior of retardates as we do the weather: we talk about it, but we seldom try to do anything to change it. One professional observer recently commented with an air of finality that a group of retardates in a room with an excellent teacher are sure to talk and act very much like a group in a room with a poor teacher or indeed in a room with no teacher at all.

This type of professional fatalism perhaps has resulted in a degree of apathy about retardates. It may serve to explain why treatment methods for speech and language training of retardates are almost nonexistent. Speech

pathologists, psychologists, and psychiatrists have seemed reluctant to approach the task. Teachers of the retarded have occasionally applied the methods of the speech correctionist, but usually have evolved empirical methods of their own with few, if any, attempts to verify the value of the treatments.

Rationale

The professional team which planned the project recognized at the outset the existence of gross deficiencies in language and communication skills among institutionalized mentally retarded children. They assumed that there are many reasons for these deficiencies. For instance, impairments which may at least add to the deficits in communication are hearing losses (which affect between fifteen and forty percent of the mentally retarded), congenital cerebral maldevelopment or cerebral injury, emotional trauma or conflict, and chemical imbalances. Symbolic disorders or disarthria, fragmentations in language form and content, affective avoidance, and marked developmental anomalies are assumed to be behavioral characteristics which result from such disturbance categories.

The substantive area, however, which most interested the research group was environmental in nature. More specifically, the group was interested in the interpersonal variables of the environmental setting. Much of this early interest was derived from preliminary appraisals which showed the children to reflect an unrewarding series of interpersonal experiences. Many of these experiences very likely precede

This article has been prepared for publication in *Medical Times* by Dr. Schiefelbusch and Dr. Bair, who are directing a long-range study of the language behavior of institutionalized, mentally retarded children. Richard Schiefelbusch, Ph.D., is a Professor of Speech Pathology and Director of the Bureau of Child Research, University of Kansas. Howard Bair, M.D., is Chairman of the Committee on Mental Deficiency, American Psychiatric Association, and Superintendent of Parsons State Hospital and Training Center.

*The Parsons Project is supported by a project grant from The Community Services Branch of NIMH.

their coming to an institution. Members of intake staffs at institutions observe evidences of rejection in many case reports which accompany new admissions. The rejection, of course, may reflect generally in the child's behavior and especially in his modes of communication. Such informal data, however, does not suggest that the rejection is an indication of willful neglect or abuse. Rather, they suggest that a developmentally slow child may be frustrating or upsetting to parents, and in the prolonged interim between the babbling period of infancy and the verbal-skill periods of early childhood, they may lose touch with the reality of their child's development. They often seem unable to provide the type of stimulation, nurture, instruction, and guidance appropriate to his learning needs. They may finally resign him to the institution with sincere intent to further his learning, or they may do so to get rid of him. In either event, he likely has had a poor quality of communication experience. The child may have lived in a world typically filled with infrequent or unstimulating verbal demands, avoidances, impatient gestures, infrequent social play, or angry verbal intonations. The child may even have found such experiences to be chronically upsetting. Under such conditions the child may learn that interpersonal encounters are nonrewarding or punishing. Because of such learning, as he matures, his newly acquired "physiological readiness" may be offset by apathy and avoidance.

When the child is placed in the institution, the new environment may provide little real improvement. The dramatic experiences may be reduced somewhat, but the neglect may become even more commonplace. Aides are likely to be "spread too thin" to serve satisfactorily as foster parents. Eventually the long-term separation of the child from his home and community may produce conflicts which must be understood and resolved if a child is to function at his "maximum capacity."

It is the theme of the Parsons Project* that the retarded child—with or without organic damage—may be subjected to interpersonal processes which tend to perpetuate a low level

of behavioral functioning, particularly verbal behavior. It is also possible that these processes can be determined and manipulated. The project, which has been in process about eighteen months, is attempting to describe and manipulate these interpersonal processes.²

Treatment Methods and Procedures

Since the general approach adopted by the research team emphasizes that verbal behavior consists of a response sequence between two persons, the task was to put this idea into researchable form. In research terminology, the independent or manipulable variables of verbal learning are in terms of what we do with two or more people—not with one. When we attempt to create an optimal verbal learning situation for the child, our second person consists of a speech pathologist, a teacher, an occupational therapist, or some other therapist. It is the behavior of this second person which we usually think of as the independent variable. That is, we think of this person as presenting to the child an environment consistent with certain rules or principles.

In the absence of previously established guide lines, the staff decided to initiate a pilot study to experiment with methods of language stimulation. The *Echoic* or *Reinforcement Method* was used with one group of children. This method consisted of imitating and encouraging the children's voluntary verbalizations within a permissive play situation. The adult refrained from emitting spontaneous verbalizations of his own. The intent was to reinforce verbal behavior that the child already had in his repertoire. The *Sensory Bombardment Method* was used with a second group of children. This method consisted of having the adult do a great deal of talking in an effort to stimulate new verbalizations as well as reinforcing any verbalizations which were already in the child's repertoire. A third group of children was used as a Control Group. Children of this group were seen only at times of original testing and retesting.

The results of this pilot study showed the greatest improvement with the children in the

Reinforcement group. The *Control group* showed the least improvement. The differences among these treatments were significant by statistical standards. The main purpose of the pilot work, however, was not to provide definite results, but rather to explore the possible value of future study and to guide the planning of more definitive work.

The second phase of the treatment studies utilized hospital aids in the adult role. Aides were selected because they were considered to be representative of the adult figures who come in daily contact with the children. The research staff wished to know if it could communicate treatment methods to the aides in such a way that they could maintain the methods over a period of time. They also wished to know the effectiveness of these various methods in increasing the language skills of the children.

In addition to the experimental groups utilized in the pilot study, namely, *Reinforcement* and *Sensory Bombardment*, a third experimental group was included in which the aides simply were given the instruction "get the kids to talk." Two additional groups were also devised for use as controls. One of these was employed with children who were not included within any weekday stimulation group, but were seen only within a standard situation on Saturday morning. In the other control group, the children were seen only at the time of original testing and for the retest.

It is premature to try to present conclusive results at this point for what is an ongoing and continuing study. However, there are several observations which can be made at this time. The first of these is concerned with aide behavior. Apparently, the treatment methods are translatable and reproducible. The aides assigned to each treatment method have consistently and conscientiously adhered to the training instructions, and the difference in aide behavior for the different treatment methods was readily apparent to uninformed staff observers who were invited to participate informally in the study. In the "get-the-kids-to-talk" groups, there was a noticeable lack of consistency on the part of the aides in using re-

inforcement or "reward" as a means of increasing the children's attempts at verbalization. Also there were a great many "don'ts" and "quits" which were not present in the other groups. This has implications for further research into the verbal environment of the child with an uninstructed adult in a natural setting.

The results of this study were in the same direction as the previous study, i.e., the Reinforcement group showed more improvement than did the other groups.

The team also wanted to know how the uninstructed adult and the uninstructed peer function in settings that were not contrived. How do these people react to the disparity between the retarded child's psychological development and his biological growth? What effects do these contacts have upon the participants? If we focus our attention upon the behavior of the adult or peer, an obvious question is whether or not his behavior is modified over time so as to create a better or poorer learning situation for the retarded child. It is clear that if we think these contacts are important to the language development of the child, we will want to utilize them in any way we can to influence that development.

Two experiments have been designed within this framework. Some data has already been extracted from these two studies and can be reported. Additional analyses are still in progress however, and will be reported at a later time.

The first study concerned the question of how a relatively naïve adult reacts to children who are retarded verbally. This study focused primarily upon the kinds of questions an adult asks, i.e., the verbal behavior he demands of the retarded child. Our hypothesis is that an adult interacting over time with a retarded child will tend to ask questions which require very little verbalization of the child. The adult will ask questions which have either very few appropriate alternatives and/or the alternatives are very discriminable to the adult. The extreme type of question is one which requires either "yes" or "no" or the gestural equivalent.

This effect upon the adult creates, in turn, a

poor verbal learning situation for the child. That is, if the child is required primarily to nod or shake his head, he will have very little practice with language performance—just the opposite of what he seems to need in order to learn. Compare the amount of practice in such an interpersonal setting with that which the normal child receives when he rewards the adult with easily understood verbal behavior.

The pilot phase of the study has now been completed. Later experiments will explore the effects of changing these very limited verbal demands by the adult on the verbal development of the child. The amount of data is as yet insufficient for one to discern definite changes in interviewer behavior when he is placed with a group of low, as compared with high, verbal children. However, the data show that when an adult is placed in an interview situation with a retarded child, the ratio of questions requiring only a nod or one word to the total questions asked is extremely high (.39 to .89).

The second study was designed to explore, in a systematic way, the nature of interpersonal interactions between pairs of children in the hospital. The study was stimulated in part by the fact that a significant proportion of the interpersonal contacts of the institutionalized child is with other children. Casual observation of these interactions on the hospital playground, cottages, or dining rooms suggests that consistent sociometric groupings take place, possibly as a function of their level of verbal development.

The results to date are quite provocative. Except for the anticipated finding that the greatest frequency of intelligible speech is emitted by high speakers in the presence of high listeners, the results are somewhat surprising. For instance, a low speaker, on the average, shows more intelligible speech when he is with a low listener than with a high listener. Equally interesting is the finding that the low speaker presents more intelligible responses to low listeners than does a high speaker to the same low listeners.

We must, of course, be cautious in concluding that these effects will take place in all situations.

The particular physical setting may be quite important to the demonstration of results. The same children within a larger room, on the playground, or in a highly structured setting, may emit quite different frequencies relative to each other. An important part of our future research effort will be directed at the exploration of the physical conditions under which these interactions take place.

Comments Regarding Future Work

The tentative results of these studies provide considerable encouragement for the additional exploration of interpersonal variables as

contributors to retarded behavior. These studies are also encouraging for further research related to the general proposition that the variety of interpersonal settings for the retarded child may be manipulated so as to effect a reduction in his retarded condition. How, for example, can we instruct or train adults to provide rewarding social processes for the child? How can we maintain this training? How should we best confine the peer assemblies within an institution? What treatment methods will predictably lead to an increase of intelligible verbal behavior by the children?

Conclusion

These first studies in the laboratory are obviously only a beginning. They are as much methodological studies as they are content studies.

They have been used for working out some experimental techniques and routines, for developing some measurements which seem

meaningful, and for establishing the rudiments of a plan for additional systematic research. The ultimate value of the procedures developed in the basic and applied research phases will be determined through long-range, longitudinal studies of the children who are placed in the modified environmental settings.

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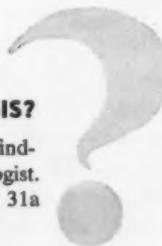
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Coronary Artery Disease

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In a recent reported study¹ of four hundred and fifty cases of coronary artery disease, observed in private practice during the past twenty-five years, attention was directed primarily to such phases of the disease as the natural course, the immediate mortality rate, and length of survival so far as could be determined. There were many other aspects of the disease noted but not statistically interpreted. For example, it was noted that the incidence among any group, social or economic, was not significant. The past history of various diseases likewise did not appear causatively important. The presence of diabetes mellitus over a period of years was frequently accompanied by a complicating atherosclerosis of the coronary arteries, and this was not surprising in view of the nature of diabetes. The onset of angina pectoris occasionally was a preliminary sign of impending myocardial infarction but there were many patients in whom angina remained stationary for years. The general impression gained from this study was that coronary artery disease is a multifarious affair, varying clinically in incidence and progress, about as much as the individual varies so that each patient must be appraised individually and treated accordingly. The very small number of women in the above study conformed with other reports. However,

during the past few years, the author has seen coronary thrombosis in many more women and in the younger age groups (thirty to fifty) which was not previously observed at all.

From the clinician's point of view however, there is another aspect of coronary artery disease which is far more important and is receiving much less attention than it deserves; namely, the actual management of the patient with the disease rather than just the disease alone. This is especially important since the management of the patient remains somewhat constant; whereas, treatment of the disease varies from time to time depending upon newer concepts of the disease itself. It has been my observation that the patient himself has been lost sight of, or ignored, in the welter of articles dealing with various aspects of etiology, results of animal experimentation, the use or non use of anticoagulants both immediately and permanently, dietary suggestions, an ever changing combination of drug preparations together with suggestions of surgical procedures both for the relief of symptoms as well as the disease itself. The physician endeavoring to keep pace with the many suggestions offered him hasn't time to bother with the patient's reaction to "his own" disease. In a word, the Art of Medicine in this particular situation is lost in the shuffle. At once, one may ask, "Is

this good or bad?" The answer is that it is bad, because up to now it is evident that the use of all the measures listed above do not offer to eliminate or cure the underlying disease. Ultimately, the patient has to deal with an unsolved situation and so the management of the patient with "his disease" becomes increasingly important.

Since this paper is concerned with the problem of coronary artery disease, let us consider the individual who has an attack of coronary thrombosis. During the immediate attack and for some days thereafter, both the patient and the physician is concerned solely with survival. This is not the time to discuss the future with the patient. Later, during the convalescent period, it becomes the duty of the physician to discuss in detail with the patient, the nature of the attack, the details of the many aspects of the disease, the plan of future treatment and all other questions proposed by the patient. The perceptive physician will usually observe a reaction to this on the part of the patient, and this reaction usually gives a clue to "the kind of patient the disease has," as Osler so aptly put it. The early reaction of the patient centers about his realization that he has a potentially serious disease and one which may result in permanent disability. It is my experience that most patients know all "the wrong details about the disease" and unless these notions are corrected, this is a source of constant anxiety reaction. The patient then is primarily concerned with what sort of recovery he may expect; whether he may return to his usual work, the probability of another attack, and above all, when he may expect to recover from the immediate attack and return to his work. Straightforward answers to these questions on the part of the physician are extremely important if the future management of the patient is to be successful. After a variable time, sometimes early, frequently later, the patient usually experiences a depressive state relative to his disease, manifested by many minor symptoms, an inability to do anything, easy fatigue, some self-pity, and a little bitterness usually

expressed as "why did this have to happen to me?" If this reaction is not appreciated by the attending physician and if careful attention is not given to a detailed discussion of the expectancy of such a reaction to the patient, it is quite easy for the patient to drift from a mild depression to hopelessness and even despair. It is precisely at this stage of the disease that the physician can and should be of the greatest service to his patient. He must instill hope, confidence, and a will on the part of the patient to surmount his plight. Very often, it is at this very time that the physician is so busy trying to decide upon the various treatments of the disease itself, that the real predicament of the patient is overlooked. What is worse, the above reaction is mistakenly considered a part of the disease itself and the patient is rushed through more examinations, restrictions are imposed on his activity, various drugs are given and the depression of the patient is intensified because he interprets this to mean he is getting worse and a vicious circle is instituted. The astute physician must be on the lookout for this reaction and use every means to overcome it or he may never be able to rehabilitate this particular patient.

The next important phase of the disease comes when a decision regarding a return to work must be made. This has become quite complicated and involved, because of the earlier cautious view regarding the ability to perform work, and the unnecessarily long time of rest imposed on these patients, as well as the present hesitancy of business and industry to accept their responsibility in the rehabilitation of heart patients generally. Some progress has been made within recent years and it is hoped this will continue. Time, observation, and recent experimental evidence has demonstrated that work is desirable for these patients when the physical condition justifies it. This imposes an added responsibility upon the physician because he must assume the responsibility of deciding if the patient can work, when he is capable of returning to his work, and what restrictions, if any, are desired. Likewise, the physician has a duty to employers to explain

why the individual patient should be returned to work, whether his work may be expected to affect his heart condition adversely, and what may be expected as a result of the natural course of the disease. If, for any reason, the patient is not permitted to work, a detailed explanation should be given him and especially is this so if he is physically able to work. Failure to do so may result in unnecessary hardship as well as precipitate a severe depression in the patient.

This is best illustrated by the following case record: A fifty-year-old executive who had had coronary thrombosis, recovered without any complications, had no other determined disease, was told while he acutely ill that "he should never work at his usual job again." When this patient was seen eight weeks after recovery, he was very much depressed, and said he was told so many "don'ts" that there is little to live for. After determining he was in excellent physical condition, except for having had a coronary thrombosis, he was reassured, and given a detailed view of his present physical state, and was advised to return to his usual work as soon as possible. This he did and after working for one month he wrote as follows, "I have realized many times since I saw you, I had not lived since my attack in October. My conclusion is that even though I only live several months and have a reasonable amount of happiness and can do things I used to do, it would be much better than living ten years as I was when I first visited you." This patient incidentally continued his usual work without interruption until retirement. He regained his lost morale, and lived thirteen years without another "heart attack." He died of an unrelated disease to his heart trouble. This is not an isolated case history. There have been many similar instances with similar responses. It has been my experience that practically all these patients can be returned to work without obvious harm provided the physician maintains the proper supervision and guidance of the patient.

The majority of these patients require little or no medicine. The use of "coronary dilators"

certainly do not prevent future attacks and really only tend to continually remind the patient he has some chronic disorder. Dietary restrictions should be advised in the obese. However, reduction programs should be maintained throughout the lifetime of the individual and need not be so intense nor immediately accompanied by various drugs and diuretic measures. The author has seen many instances of disturbed heart rhythms, atrial fibrillation and one instance of hyperthyroidism following drastic use of diets, combined with antiappetite drugs and diuretics. The problem of the use of anticoagulants is potentially more serious, especially since there are so many dogmatic opinions about the use of these preparations. The use of anticoagulants, both during the immediate attack as well as the long-term use, requires a thorough knowledge of all the aspects of blood coagulation, adequate control measures of prothrombin time at all times and a recognition that these preparations vary in effect in different individuals as well as in the same individual from time to time. In many instances, patients are given anticoagulants without adequate control measures of the prothrombin time or with such low dosages that they may as well not be used at all. Patients do not always cooperate because of the expense involved and a failure to have the potential dangers adequately explained to them. In my own observations,² there was occasion to issue a warning about the uncontrolled use of anticoagulants. The preliminary observations on patients in an adequately controlled research center with all possible equipment and trained staff are not necessarily immediately applicable to the generalized practice of medicine. These reports should be confined to the proper medical literature rather than discussed in the lay press where many misrepresentations are known to originate.

Dogmatic statements that all patients with coronary thrombosis should have anticoagulants both during the immediate attack and permanently thereafter, is apt to result in more harm than good.

In the matter of surgical procedures, it is well to remember this is still in the early observational stage. Careful selection of adequately controlled patients subjected to operative procedures will in time help to determine the actual worth of these many procedures. Consider the following patient observed recently. This man, who was forty-four years old, had a coronary thrombosis two years ago with good recovery but was forbidden to return to work, as he states, "because I have a bad heart." Some months after the attack, he developed chest pains diagnosed angina pectoris. He was treated a very short time and then advised to have an operation "to improve the flow of blood to the heart." The patient further stated he was told before the operation that "this procedure will not let you return to work ever, but it will prolong your life." He still has anginal attacks six months following the operation. There is some question whether this man should have been subjected to any surgical procedure at this time and, especially for the reason given. It is a bit presumptuous to imply that any measure prolongs life in as variable a disease as coronary artery atherosclerosis.

Recent work has tended to emphasize the importance of anxiety and stress in the progress of coronary artery diseases. The role of blood coagulation has not been studied adequately to know what part it has to play in the process. So it would seem that under the present circumstances, it is important that more attention be given to the patient and his plight rather than concentrate on the disease alone from the management standpoint. There need be no neglect of adequately proved drug

therapy, nor of any beneficial procedures developed through research.

This likewise does not preclude the physician using his perceptual powers in recording the clinical course of the disease in his patients in addition to utilizing proved measures developed through research in the management of patients with coronary disease. Thus the patient will receive the best available treatment for that time. If both these phases are kept flexible, then newer concepts can be incorporated within their proper perspective to the ultimate benefit of the patient. In the meantime, let us not forget the patient himself and his reactions to his disease. As our society is a status-oriented one, and the majority of these patients are ruled by its values, it is of vital significance to each when suddenly and usually unexpectedly a "heart attack" disrupts this status. This is especially more significant since the patient is usually well aware of the potential seriousness of the disease and also the fact that there is no definite cure for his disease. If he is further confused by being subjected to the various medical controversies prevalent at the time, this can only lead to more anxiety and apprehension and even precipitate depression. The patient has to grapple with his own predicament and he needs help and guidance from the physician. The physician can plan the actual medical attack upon the disease but he must go beyond this, "the other mile," so to speak, and identify the psychic aspects and socio-economic factors involved, and, if this is done properly, sincerely, and without fanfare, it should add immeasurably to the rehabilitation of the patient with coronary disease.

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Veterans Administration Hospital



The Ever-Present Threat of

INCISIONAL HERNIA

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Unquestionably, most incisional hernias can be prevented. However, this is not always the case. Every thoughtful surgeon has the possibility of incisional hernia in mind when closing his abdominal wounds. And in spite of all the thought and technical care used in closing such wounds, an occasional incisional hernia occurs in the hands of our very best surgeons.

Undoubtedly, a great many incisional hernias are due to faulty closing of abdominal wounds. They occur far less frequently after a wound has been carefully closed. In making the abdominal incision, after incising the skin and subcutaneous tissue, the fascia should be thoroughly cleaned of fat and areolar tissue for an area of at least half an inch wide before the incision is made in the fascia. This will expedite closing the wound and insure fascia-to-fascia union when the fascia is sutured in closing. Long ago, it was demonstrated¹ that fat and areolar tissue interposed between any structures which are to be sutured together, result in a filmy, flimsy type

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of union instead of the strong fascial union which is otherwise achieved.

There are two main types of abdominal incisions—the vertical and the transverse or semi-transverse (such as the subcostal). The vertical incision is more popular and more widely used than the transverse, probably for two reasons. One is habit, and the other the fact that the vertical incision is easily extended to expose any part of the abdominal cavity. One sees more incisional hernias in vertical incisions than in transverse incisions, probably because the vertical incision is more widely used. A recent survey of a series of cases showed that percentagewise, the rate of occurrence of incisional hernia was approximately the same in the two types of incisions. McVay,² however, has presented a strong case for the transverse incision. He has shown that the majority of the aponeurotic fibers of the transversus abdominus and internal oblique muscles run in the transverse direction and that these fibers naturally tend to close a transverse incision, rather than open it, which is not the case in vertical incisions.

No matter what type of abdominal incision is chosen, the important thing is to make the closure in the best possible fashion so as to present a strong wound with little likelihood of a breakdown giving rise to an incisional hernia. In the first place, it must be pointed out again, as has been so often done before, that catgut has no place in the closure of a clean abdominal wound. It is true that the quality of catgut has improved and some eminent surgeons still claim that catgut is useful because of the trouble that silk causes in the presence of infection. They claim that the quality of catgut has improved to such a point that it is not as readily absorbed as it used to be. This is wishful thinking. Madsen³ recently made an experimental comparison of silk sutures and chromic catgut sutures (with a low content of chromium, which is the most desirable type). When the sutures were placed in fascia, they initially had the same tensile strength. After six days, the silk sutures still had their initial tensile strength in nine out of nine instances,

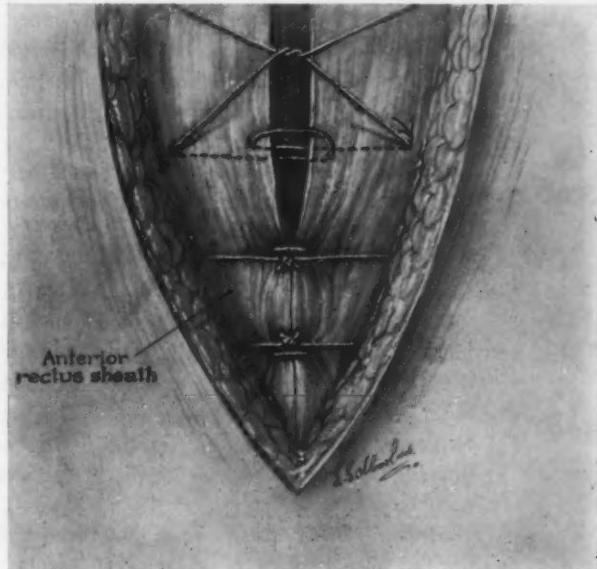
whereas only three of the nine chromic catgut sutures were reliable. There was a wide reaction zone around the catgut sutures with deep cellular invasion. Fibroplasia was only slight and there were practically no collagenous fibers seen. This is only a recent repetition of earlier experimental work⁴ and it shows that the new catgut is no improvement over the old so far as absorption and local reaction are concerned. Knowing as we do, that it takes ten to fourteen days to get good healing in any wound,⁵ is it not then foolhardy to use catgut in suturing a wound when we know that the majority of the catgut sutures will be absorbed long before firm healing takes place? It is true that the occasional infection about a silk suture is troublesome and may cause a persistent sinus tract until the offending suture is removed, but is it not better to put up with this occasional nuisance than to run the risk of the wound breaking down and an incisional hernia occurring through a wound sutured with catgut?

The abdominal closure should be made in layers. I prefer a continuous silk suture (of not too small a caliber) in the peritoneum, because it eliminates small gaps in the peritoneal closure through which small tags of omentum

may protrude if interrupted sutures are used. The abdominal fascia should be closed with interrupted sutures and fascia-to-fascia closure. This is easy and the fascial edges present themselves free of fat or areolar tissue if these tissues have been cleaned away, as previously described, when the abdominal incision is made. The subcutaneous tissues should be closed with interrupted sutures of fine silk. If this is not done in thin people, the skin scar may adhere to the fascia and become annoying or painful. In fat people, it is often unnecessary to place any subcutaneous sutures. The skin may be closed by any method that suits the surgeon's fancy.

There is still some difference of opinion as to the value of stay sutures. They are certainly not used as frequently as before. I no longer use a through-and-through type of stay sutures including all layers of the abdominal wall. When the fascia shows evidence of weakness, and I feel that the use of interrupted sutures in the fascia may not hold, I sometimes use buried far-and-near sutures in the fascia alone, of the type shown in Figure 1. Such sutures distribute tension over wide areas of the fascial surface and eliminate tension solely at the fascial edges.

FIGURE 1. Far-and-near traction suture nicely approximates the fascial edges in cases in which there is some tension. It also is useful in cases in which there is no tension, but in which the fascia is poor and in which sutures in the fascial edges themselves are likely to pull out. The suture distributes the tension over a wide area of the fascial plane instead of simply leaving it at the fascial edges. Heavy silk is used because it does not tend to cut through as silk of a smaller caliber does. The notion that no suture should be used any stronger than the structure sutured is fallacious in this respect. No matter how strong a small suture is; if it cuts through, it defeats its purpose. Between the tension sutures, interrupted sutures of a smaller caliber silk are used. The traction suture is not original with me but, so far as I know, I was the first to use it as a buried tension suture (After Koontz, A. R.: Failure with Tantalum Gauze in Ventral Hernia Repair. A.M.A. Arch. Surg. 70:125 (Jan.) 1955).



Causes

Incisional hernias sometimes occur even after such a careful closure as that just described. In one week, I recently had the chagrin of operating on three incisional hernias which occurred in my own abdominal incisions. (I hasten to add that this was a unique week.) One occurred in a fat woman following the removal of an acute gall bladder through an upper right rectus incision. She had a wound disruption while in the hospital, which was closed by through-and-through silver wire on buttons. I followed her for two years with careful examinations and it looked as though she was not going to develop a hernia in spite of her wound disruption, but she did finally develop two small hernias—one at each end of the incision. These were operated upon while they were still small. The second also occurred in an upper right rectus incision, through which an acutely inflamed gall bladder had been removed. The wound was slightly infected following operation and a few days after operation, the patient coughed violently and felt something tear in his wound. Four months after operation, a definite hernia was present, which was immediately repaired. This patient was also moderately fat. The third occurred in a low right rectus incision two years after the original operation. This patient had violent vomiting in the immediate postoperative period and felt that his wound was weakened by that. His hernia was repaired as soon as it occurred.

Having recounted these personal cases, let us consider the usual causes of incisional hernia. It goes without saying that *sloppy closure* is a gilt-bordered invitation to incisional hernia. Some surgeons are reported as saying to their patients, "But I used wire in closing your wound, so I don't see how you could get a hernia." There is no magic in wire. Not only does it often cut through, but it is often used as an excuse for an otherwise faulty closure. However, even after closure in the most approved fashion, some incisional hernias do occur.

Straining under anesthesia is undoubtedly a not too infrequent cause of incisional hernias.

I have seen anesthetists allow their patients to become "light" in the course of an operation and have seen heavy silk sutures in good fascia break with a loud report due to the straining consequent thereto. If such straining causes sutures to break during the course of the operation, it will also undoubtedly cause them to break after the wound is closed if the patient is allowed to strain violently. Even if the sutures do not break, they may tear out of the fascia, which amounts to the same thing. In wound disruptions, the sutures are often intact but the fascia has split along the side of the suture line. It is perfectly obvious, then, that the anesthesia should be so conducted that the patient does not strain while under anesthesia. If he does, his incisional hernia may start right then and there. Once he is awake, the pain will keep him from straining any more than he has to. Pain is not a deterrent while the anesthetic lasts. It is, therefore, a great mistake for anesthetists to attempt to suck out the trachea while the patient is under light anesthesia. This often throws him into violent paroxysms of coughing. The trachea should be sucked out while the patient is "deep" enough to prevent this from happening. Some anesthetists like to have their patients almost awake when they leave the operating room. If so, and if they show any evidence of violent straining, they should be given a narcotic before they leave the operating room. I think it is better to have them "deep" enough so that no straining will occur until they reach the recovery room, where the narcotic can best be given. I do not like my patients to have narcotics preoperatively (hypnotics, yes, but narcotics, no). If they do not have them preoperatively, it is then safe to give them early postoperatively in order to prevent undue straining while they are still unconscious. It is best for patients to sleep the anesthetic off rather than struggle it off. They can do this if a narcotic is given early. I no longer give morphine because it causes excitement in the occasional patient.

Unless there is some specific contraindication, patients should be placed on their side until conscious. This relaxes the abdominal

muscles and the patients breathe better. If vomiting occurs, the strain is less on the incision than if the patients are on their back, and there is less danger of aspirating the vomitus.

Coughing, vomiting, and distention are undoubtedly among the principal causes of incisional hernia, as well as of wound disruption. Cigarette smokers are apt to cough. Most of them have the habit so firmly entrenched that it is impossible to get them to stop smoking, even for a few days before or after an abdominal operation. If there is much tendency to cough, the cough should be controlled by inhalations and sedative cough mixtures. Vomiting may be partially controlled by the use of a Levine tube with suction and this should be used whenever there is any tendency to vomiting. Dramamine® given intramuscularly pre-operatively and postoperatively is a help. As long as nausea persists, nothing should be given by mouth. Milk and fruit juices should not be given by mouth until the patient has taken solid food as they frequently cause both nausea and distention. The sooner the patient is taking solid food, the better (except, of course, in cases of gastric or intestinal resections). Distention can be controlled by the use of a Levine tube and enemas. In cases of paralytic ileus, Pitressin® and prostigmin are invaluable.

Treatment

EARLY OPERATION. Incisional hernias should be operated upon as soon as they appear. They are then easy to cure. The longer they exist, the larger the defect becomes, the more the tissues on the edge of the defect are pushed aside, shrink, and become fixed in abnormal positions. Large incisional hernias are difficult to cure. The most difficult of all are those occurring in the epigastric region where the rib cage prevents much "give" in the tissues when an attempt is made to approximate them.

CLOSURE IN LAYERS. There are various methods of closing the defect in inguinal hernia repair. When the defect is wide, flaps of the rectus sheath have been used to close the defect. Some surgeons always try to close the de-

fect in layers, dissecting out the various layers and suturing them separately. I have had better results by avoiding such methods and by approximating the edges of the defect, using the full thickness of the wall on each side of the defect without separating the various layers. Of course it is necessary to be sure that all areolar and adipose tissue are removed before the edges of the defect are sutured together. After the sac has been excised, it is not even necessary to suture the peritoneum separately, but the full thickness of the abdominal wall can be approximated and sutured. I believe that this gives a stronger result than separating the tissues in layers and suturing them separately. This is especially true if there is any tension in closing. It must be remembered that the edges of the defect here are, as a rule, covered with strong fascia, which is not the case in primary abdominal incisions, hence the rationale of using full thickness closure in one case and layer closure in the other.

RELAXING INCISIONS. Whenever the edges of the defect are sutured under tension, relaxing incisions should be made in the adjacent fascial layers. As most incisional hernias occur in vertical incisions, one may generally find the rectus sheath intact on each side of the incision with good muscle under it. An incision in the sheath on each side gives at least an inch additional play on each side. In transverse incisions relaxing incisions may be made transversely in the abdominal fascia. These include the rectus sheath with the lateral abdominal fascia above, and the rectus sheath with the aponeurosis of the external oblique below.⁶ One need not fear a hernia occurring beneath a relaxing incision, provided there is muscle under the incision. It was demonstrated experimentally long ago that the rectus sheath becomes regenerated when excised.⁷ When relaxing incisions are made, and on closing the edges of the defect under some tension, it is found that the muscle where the relaxing incision was made has separated in a small area, the defect may be repaired by suturing in a small piece of cutis graft taken from the skin at the edge of the incision.

FAR-AND-NEAR STAY SUTURES. When the

defect is large in spite of relaxing incisions, sometimes it is necessary to close the edges of the defect under some tension. If the edges of the defect are closed simply with interrupted sutures, then the tension is all on this suture line. In order to avoid this, I use such far-and-near traction sutures as shown in Figure 1. These sutures distribute tension over a wide surface of the fascial plane and prevent the interrupted sutures which are used between the stay sutures from pulling out.

FLAPS OF REINFORCED PERITONEUM. In incisional hernias, the sac is not composed simply of peritoneum, but of peritoneum reinforced by a good deal of fibrous tissue. In those cases in which the edges of the defect cannot be closed (rare when proper relaxing incisions are employed), flaps may be fashioned out of the reinforced peritoneum and the flaps overlapped. This may be done by simple overlapping or by using Johns' ingenious method of interlacing tongues of tissue prepared from the reinforced flaps.

REINFORCING AGENTS. There are two principal reasons for using reinforcing agents: (1) if the tissues have been closed under tension, and (2) if the tissues are poor, no matter how relaxed the closure. Some people have such poor abdominal fascia (especially fat people) that the interstices in the fascia are wide, the fascia is weak, and cannot be relied upon to hold suture material.

The three principal reinforcing agents in use so far are tantalum, cutis grafts, and transplanted fascia. I prefer tantalum because it does not cause trouble in the presence of infection, as do the other two. When tantalum is used, especially in the case of weak fascia, the tantalum should extend a good distance beyond the edges of the suture line. If this is not the case, a new hernia may develop through the weak fascia at the edge of the tantalum.

An objection frequently made to tantalum is that it undergoes fragmentation after a period of time. This is true, but it should be pointed out that tantalum is not used to cure the hernia *per se* but simply to act as a scaffolding through which fibroblasts grow—indeed the tantalum

becomes thoroughly permeated and surrounded by normal fibroblasts. The tantalum oxide covering the tantalum stimulates the growth of normal fibroblasts. In this regard, tantalum has the advantages over stainless steel, which lies completely inert in the tissues.⁹ On writing to a doctor in another city to inquire how a patient was upon whom I had operated, he sent me x-rays of the patient showing some fragmentation of the tantalum several years after the operation. It seemed to make no difference to him that the hernia had been cured but the purely academic question of the fragmentation of the tantalum seemed paramount.

As remarked before, epigastric hernias are the most difficult of all incisional hernias to cure. In such defects, in the rare instances in which the edges of the defect cannot be approximated by proper relaxing incisions and the shifting of tissues, should the overlapping flaps of reinforced peritoneum be used, tantalum is not a good reinforcing material in this area. The stresses are so great that the fibrous tissue engendered by the tantalum is not strong enough to withstand the intra-abdominal pressure. A better reinforcing agent in this area (only when the edges of the defect cannot be approximated) is either a cutis graft or transplanted fascia. Cutis grafts, in my experience, make for a stronger closure. Tantalum is a better reinforcing agent if the edges can be approximated.

PNEUMOPERITONEUM. In a great many cases, the hernias are so large and so much of the abdominal contents are in the hernia sac that the hernia is said to have "forfeited the right of domicile." An attempt to reduce the contents of such hernia sacs without preliminary preparation have occasionally resulted in death. Sometimes it has been found impossible to reduce the contents. At other times, after they have been reduced, the increased abdominal pressure greatly hinders both the respiration and the cardiac action, often very seriously. In order to obviate this, the method of preliminary pneumoperitoneum introduced by Goñi Moreno, of Buenos Aires, is invaluable. I have used the method successfully in a fair

number of cases, which I do not believe were otherwise operable.^{10, 11}

The method makes an inoperable situation operable. Air is injected into the peritoneal cavity preoperatively. At the first injection, the amount of air varies from 500 cc. to 3,000 cc. depending on the patient's symptoms. If the patient shows respiratory distress or other symptoms, such as pain in the shoulder, the injection should be ceased. Additional injections are given every three or four days until the abdominal cavity has been enlarged

enough to receive the contents of the hernia sac. Between injections an abdominal binder should be worn so that the air does not simply become captive in the hernia sac. I have injected as much as eighteen liters of air in several instances prior to operation. At operation when the peritoneum is incised, the air escapes with a "poof." It is then found that the abdominal walls are flaccid, the abdominal contents are easily reduced, and it is surprising how easily the edges of the large defect are brought together.

Summary

Most incisional hernias may be prevented by proper closure at the time of primary operation. Even when proper closure is made, especially if the tissues are weak, incisional hernias do occur in the best of hands due to violent vomiting, coughing, or straining under anesthesia. All of these factors may in large part be prevented.

There is no magic in wire, which some surgeons use as an excuse for faulty closure.

Early operation is an important factor in the cure. When the defects are large, relaxing incisions should be made in the surrounding fascia. When the defect is closed, the full thick-

ness of the abdominal wall on each side should be approximated, rather than dissecting the wall on each side into layers. Far-and-near tension sutures should be used to distribute the tension over wide areas of the fascia in those cases in which the edges of the defect are closed under tension.

Whenever there is tension or poor tissues, some reinforcing agent such as tantalum gauze, a cutis graft, or a fascial transplant should be used.

Preoperative pneumoperitoneum is an invaluable aid in those cases which have forfeited the right of domicile.

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Identification of Streptococcus

WILLIAM J. PEEPLES, M.D.
Rockville, Maryland

Because of the time delay in obtaining a laboratory report on an acute throat infection, it is often necessary for a physician to administer therapy before a laboratory diagnosis is made. In the case of Group A Beta hemolytic streptococci, the organisms usually associated with rheumatic fever and acute glomerulonephritis, this delay is necessitated by the time required for isolation of pure bacterial culture and the subsequent preparation of extracts for performing the precipitin grouping test. Therefore, a more rapid diagnostic test would enable the physician to determine proper therapeutic measures earlier in the course of infection.

Moody, Cherry, Thomason, et al. of the Communicable Disease Center, Atlanta, Georgia, have developed such a test using a specific fluorescent antibody so that individual bacterial cells can be identified accurately when they are seen to fluoresce. This may be done in dried smears made from pure culture, mixed culture, or from impression smears of infected animal tissues. These researchers also explored the possibility of using fluorescent antibody for grouping streptococci from direct smears made from throat swabs, cultures or other clinical materials. Direct smears are not uniformly re-

liable but incubation of from three to five hours in Todd-Hewitt broth with subsequent smear and staining gives excellent results.

The fluorescent antibody technique was first described by Coons, in 1941. However, during the period of World War II, this work was put aside, and by 1955, only forty-four papers had appeared on the subject of fluorescent antibody. In 1953, Goldman of the Communicable Disease Center reported the first successful application of labeled antibody to the detection of the protozoan, Endamoeba histolytica, and to its differentiation from the closely related, but harmless Endamoeba coli. Goldman also applied this same method to the identification of Toxoplasma gondii in smears from tissue material.

Workers in the medical field are familiar with many types of serological tests—agglutination, precipitation, and complement fixation. A test employing fluorescent antibody can be understood best by considering it as nothing more than a new way of detecting a specific antigen-antibody combination by direct microscopic observation of a stained preparation of bacteria, protozoa or viruses. In the simplest and most direct form, the test consists of treating fixed smears of the antigen with a solution of specific antibody which has been labeled (stained) with a fluorescent compound. The staining may vary from ten to sixty minutes,

From the Montgomery County Health Department, Rockville, Maryland.



Mr. Dan Spielman reading slide for Group A hemolytic streptococci Fluorescent Antibody Test.

following which the unattached antibody is removed by washing. The smears are blotted dry and a drop of glycerol saline and a cover slip added. The preparation is now ready for examination under a monocular microscope which is fitted with a good cardiod type dark-field condenser. Under these conditions, the organisms which have retained the labeled antibody as a result of the specific antigen-antibody combination will appear brightly fluorescent using an ultraviolet light source of a wavelength of about 3660 Angstrom units. Fluorescein isothiocyanate combined with specific antibody is the label of choice.

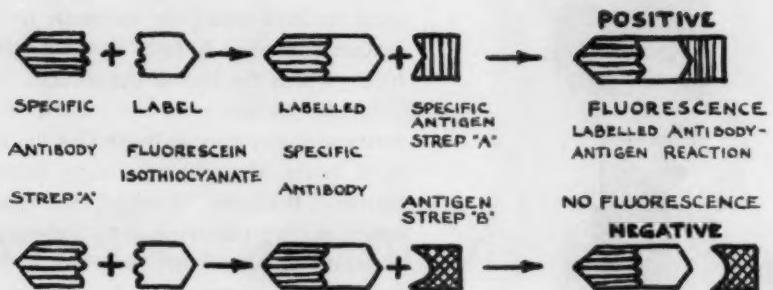
Fluorescence is a property possessed by a rather small number of chemical compounds which are able to emit fluorescent energy when excited by light in the ultraviolet portion of the spectrum.

The Heart Disease Control Division, U. S. Public Health Service has established three

areas for field testing the technique for identification of Group A Beta Hemolytic Streptococci. One is the Health Department, Denver, Colorado, another is in the State Health Department Laboratory in North Dakota, and the third, in the Montgomery County Health Department, Rockville, Maryland. The latter area was to receive specimens directly from private physicians in the County with not more than two hours to elapse from the time of taking the specimen until it was received at the laboratory. After incubation in Todd-Hewitt broth for three hours at 37° C., the specimen is spun down and stained. Reports of the fluorescent antibody findings are telephoned to the physician who submitted the specimen. A culture plate to be used for precipitin grouping is made from the original specimen. When this test is completed two to three days later, a written report of both tests are forwarded to the submitting physician.

Over one hundred and twenty specimens were examined by this method over a five-month period. Fifty-five specimens were found positive for Beta hemolytic streptococci. Forty-four of these due to Group A organisms. In all instances except one, the fluorescent antibody determination agreed with the results of precipitin testing. The one exception showed a positive fluorescent antibody on a three-hour broth smear, but no beta hemolytic streptococcus colonies could be found on the fluorescent antibody culture plate or the conventional culture plate thereafter. This might be explained by the fact that these organisms died prior to culturing. Nine other groups were found; seven were in groups B, D, and G, with two other groups which still remain unidentified.

Later in the study, which is still in progress, physicians mailed in specimens taken. The most successful collection kit was a piece of filter paper, covered with a glassine strip, with an outer wrapping of heavy aluminum foil, to be enclosed in a double envelope. The filter paper is cut with sterile scissors, one-half for the fluorescent antibody test, the other half for precipitin grouping. Eighty-eight such



specimens collected and mailed in have been examined. All correlate exactly between fluorescent antibody and precipitin grouping.

The U. S. Public Health Service has recently established a training course at the Communicable Disease Center, Atlanta, Georgia, for at least one bacteriologist from each state health department laboratory, so as to make fluorescent antibody tests for streptococci available to health departments and private physicians. The course lasts for approximately three weeks; with two weeks spent in fluorescent antibody procedures and one week on precipitin grouping methodology.

Equipment purchased for this technique consists of a special ultraviolet light with specific filters made by the Reichert or E. Leitz Company at an approximate cost of \$850. A monocular microscope (cost \$400) is used with a cardioid type of darkfield condenser (cost \$60). Specific streptococcus A antigen, combined with a fluorescein isothiocyanate stain is available commercially.

The fluorescent antibody technique has great possibilities for identifying types of bacterial organisms such as *Salmonella typhosa*, *Bacterium tularensis*, *Bacillus anthracis*, and *Pasteurella pestis*, as well as certain other organisms which are pathogenic for man, such as *Endamoeba histolytica*, and *Toxoplasma gondii*. Some of the yeast-like organisms lend themselves to fluorescent antibody identification as do some of the virus, such as influenza, and rickettsial organisms. In addition, fluorescent antibody techniques have definite application for rabies virus identification. One of the stumbling blocks to further progress is the develop-

ment of methods for producing specific antisera which do not give cross fluorescent staining reactions between bacterial groups, such as the various *Salmonella*.

Fluorescent antibody could become an indispensable tool for rapid application of countermeasures against a germ warfare attack. For example, such an attack might come from the air—by explosion of a germ bomb, by spraying of germs, or by the release of infected insects. With the new technique, enough specimens containing the bacteria or virus could be obtained from any surface, or even from a sample of the air itself, to make a reliable test. With standard procedures, identification of germs in very small concentrations or where foreign materials are present would be extremely difficult, if not impossible. Another advantage of the new technique is that specimens could be tested for several different diseases at once and in a very short time.

The new technique has additional civil defense significance that it would reduce the danger of epidemics among people evacuated from cities. Food and water supplies in evacuation areas could be tested quickly, even under very difficult conditions. In this way the hazard of contamination—always a threat when large numbers of people are living without normal public health protections—would be greatly reduced. Because of the simplicity of the test and its practicality for field use, civil defense workers could be trained to use it. Research such as is being done in Montgomery County and the Communicable Disease Center will hasten development of improved techniques.

Montgomery County Health Department

THE MENOPAUSE...

Understanding and Treatment

WILLIAM G. CALDWELL, M.D.
Los Angeles, California

The controversy continues concerning the understanding of the disturbances of the menopause. One school believes that the symptoms of the menopause are intimately related to psychic factors and that explanation and psychotherapy are the therapeutic measures of choice. Others are of the opinion, or imply that endocrine changes with subsequent somatic disturbances are predominant and that relief can be obtained by the judicious use of hormonal therapy. It is not my purpose in this presentation to enter into this dispute, but rather to make some contribution, perhaps, toward the management of the symptoms associated with the menopause.

Much has been written dealing with estrogen and the symptoms resulting from its deficiency. Goldberg,¹ in an excellent monograph, stated that the hormonal changes at the climacteric time of life affect both the central and autonomic nervous systems. It is as though the color of the lenses through which a woman sees the world were changed from rose to blue. She becomes anxious, apprehensive, depressed, melancholic, irritable and emotionally unstable.

From Department of Clinical Research, St. Anne's Hospital, Los Angeles, California.

Table I lists the symptoms of the menopause, according to Goldberg.

The multiplicity of symptoms of the menopause, is evidence that there are many contributing factors which alter the severity and number of symptoms. Hence, each patient must be individually studied in order to provide the best therapeutic relief.

It is evident that the failure of the ovaries to produce estrogen in adequate amounts is the basic reason for the menopausal syndrome. The variations of the amount of estrogen produced in any group of women, undoubtedly accounts for the differences in the severity of symptoms.

The reduction of estrogen by the ovaries, with the subsequent increase in follicle-stimulating hormone secretion by the anterior pituitary might also be an important factor. The signs and symptoms associated with ovarian failure are well-known and will not be discussed here. The principal subjective changes are increased nervousness and irritability, depression, emotional instability, hyperesthesia, vertigo and numerous other symptoms. Those symptoms related to increased irritability of the vegetative nervous system are "hot flashes," night sweats, chills, fainting, palpitation and cardiac arrhythmias. Disturbances in menstrual flow are varied and may range from a cessation of flow to excessive frequency, from a decrease in the amount of flow to hemorrhage. Pettit² reported that the aging process is accompanied

TABLE I. MENOPAUSAL SYMPTOMS

DISTURBANCES OF PSYCHE
<i>Nervousness</i>
<i>Anxiety</i>
<i>Apprehension</i>
<i>Depression</i>
<i>Melancholia</i>
<i>Irritability</i>
<i>Restlessness</i>
<i>Emotional instability</i>
<i>Crying spells</i>
<i>Fatigability</i>
<i>Lethargy</i>
<i>Impaired power of concentration</i>
<i>Indecisiveness</i>
<i>Impaired memory</i>
<i>Insomnia</i>
DISTURBANCES OF AUTONOMIC NERVOUS SYSTEM
<i>Hot flushes, or flashes</i>
<i>Heat intolerance</i>
<i>Excessive perspiration</i>
<i>Night sweats</i>
<i>Chills or chilly sensations</i>
<i>Dyspnea</i>
<i>"Smothering" spells</i>
<i>Palpitation</i>
<i>Dizziness</i>
<i>Paresthesias</i>
<i>Headache</i>
<i>Gastrointestinal dysfunction</i>
<i>Urinary tract dysfunction</i>
<i>Raynaud-like symptoms</i>
<i>Pruritus</i>
REPRODUCTIVE SYSTEM
<i>Irregular bleeding</i>
<i>Metrorrhagia</i>
<i>Vaginal mucosal atrophy</i>
<i>Pruritus vulvae</i>
OTHER SYMPTOMS
<i>Neurodermatidities</i>
<i>Arthralgias</i>
<i>Ozena (rare)</i>
<i>Keratoconjunctivitis sicca (rare)</i>

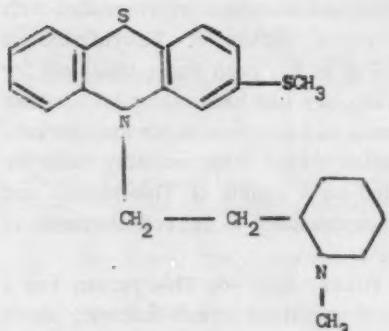
by fear of insecurity which leads, at times, to panic in some individuals. Fear of losing physical attractiveness, stability of marriage may contribute to emotional and vasomotor instability.

The management of the disturbances of the menopause can include psychotherapy, sedation and gonadal steroid substitution. With the advent of the phenothiazines and their widespread use, there is reason to believe that a number of the symptoms associated with the menopause can be successfully treated without the necessity in many cases of using hormonal therapy, which may induce harmful effects if too much reliance is placed on them. Psychotherapy in the form of reassurance, understanding and counseling are necessary in the treatment of all patients manifesting menopausal symptoms. The importance of giving the patient a clear-cut understanding of just what the menopause really is, in plain words devoid of confusing medical terminology, is of tremendous value. The voluminous and most often erroneous ideas relating to the menopause, available in lay literature, have led to a disturbing added problem.

This report is concerned with Thioridazine* (Mellaril®), a new phenothiazine which is reported not to produce extrapyramidal symptoms, liver damage, blood dyscrasias or Parkinsonism. Its chemical description and structural formula are as shown in diagram.

Taeschler and Cerletti³ showed pharmacologically that Thioridazine depresses the temperature-regulating mechanism to a much lesser degree than other tranquilizers, that it inhibits motor activity due to fasting or in an amphetamine-induced hypermotility, potentiates anesthesia, reduces emotional tension of the "flight reflex." Thioridazine does not have a pronounced anticholinergic and antihistaminic effect, it has moderate adrenolytic and spasmolytic effects and does not possess a significant antiemetic effect. Haley, et al.⁴ reported that Thioridazine has adrenergic blocking effect, is slightly antihistaminic and has very weak

* Product of Sandoz Pharmaceuticals, Inc., Hanover, New Jersey.



THIORIDAZINE 2-Methylmercapto-10-[2'-(N-methyl-2-piperidyl)-ethyl] phenothiazine hydrochloride.

atropine-like activity but no ganglionic blocking effect. Swinyard, et al.⁵ comparing Thioridazine with chlorpromazine, showed that Thioridazine abolishes conditioned escape response, reduces amphetamine toxicity, decreases spontaneous motor activity, lowers body temperature, reduces the low frequency electroshock seizure threshold, prevents the tonic extensor component of maximal audiogenic seizures and prolongs hexobarbital sleeping time. In their experiments, using large oral doses of Thioridazine in mice, it was found that there was a difference in the dosage of Thioridazine and chlorpromazine required to produce overt evidence of minimal neurotoxicity. They found that Thioridazine is approximately half as toxic as chlorpromazine. Fleeson, et al.⁶ showed that Thioridazine produced an improvement in twelve out of fifteen patients treated in the outpatient clinics of the University of Minnesota Hospitals and the Minneapolis General Hospital. They found no indication of toxicity and only minimal side effects. Cohen⁷ states that Thioridazine is a potent agent in the symptomatic management of a variety of psychiatric states and that it is "singularly free from the side effects ordinarily seen with these compounds." Remy⁸ found it to be extremely well-tolerated and mentions that it proved itself particularly effective in the treatment of states of excitement in patients who had made a poor response to previous

therapy. Judah, et al.⁹ observed that it is superior to two other phenothiazines. There was no drowsiness and no cases of blood abnormality were noted. Freed¹⁰ finds Thioridazine an effective agent for the control of nervousness, irritability, insomnia, anxiety and fear. He reports no signs of Parkinsonism, liver damage or blood dyscrasias. Kinross-Wright¹¹ reported that in a large series of cases, Thioridazine did not produce such side effects as extrapyramidal symptoms, Parkinsonism, hepatic dysfunction or blood dyscrasia. This author recommends the use of Thioridazine in both hospital and office practice.

Results

Seventy-five patients in the menopause were treated with Thioridazine over a period of several months, with excellent tolerance. The average age was forty-seven years. The symptoms included flashes, tension, depression, irritability, headache and insomnia. The majority of the patients studied had multiple symptoms. Tension was the predominant symptom in thirty-seven patients; ten postsurgically castrated patients gave "hot flashes" as their predominant symptom and twenty-eight cases had equal complaints of tension, headache, nervousness and hot flashes.

Ten patients failed to receive any relief from their "hot flashes" but other symptoms such as anxiety and tension were markedly relieved. Practically all the patients noticed a "tranquilizing" effect and reported that they were sleeping much better. Since insomnia was such a common complaint, the correction of this condition was very beneficial to the patients' general "well-being." Patients who were annoyed considerably by "hot flashes" were given supplemental medication, namely Premarin[®] or Stilbesterol, with good results. No unusual side effects were reported, although six patients claimed that they noticed "increased libido."

The dosage of Thioridazine varied from twenty to forty mgms. daily with an average dose of 30 mgms. There were no extrapyramidal symptoms.

Case Histories

CASE ONE, AGE 52. Patient has been having irregular menstrual periods for the past three years. She goes as long as four months without a period and then has a normal menstruation. Flashes are only bothersome infrequently and she has not received hormone therapy. There were no pelvic findings and she is in excellent general health. Her chief complaints are severe tension and insomnia, particularly when approaching one of her infrequent menses. Tension headaches and instability are pronounced. On a regime of two 10 mgms. tablets of Thioridazine at bedtime whenever particularly tense and irritable, the results have been excellent, particularly in relief of insomnia and tension. Since she has been on Thioridazine, no sleeping tablets have been needed. This patient has been under observation for six months.

CASE TWO, AGE 49. Patient experienced spontaneous menopause one year ago and has had no menstrual periods since then. Her chief complaints are hot flashes, insomnia and extreme nervousness. Symptoms of hot flashes are controlled by Stilbesterol 1 mgm., and

nervousness and insomnia are controlled with two 10 mgms. tablets of Thioridazine at bedtime. Patient has been under treatment for four months. She had been taking barbiturates for insomnia and nervousness for long periods. No barbiturates have been necessary since she was started on a regime of Thioridazine and she has experienced a marked decrease in nervousness.

CASE THREE, AGE 46. This patient has a cessation of menstrual periods following shock therapy one year ago. Her chief complaints were severe nervousness, hot flashes and insomnia. Patient was placed on Stilbesterol 1 mgm. temporarily for flashes. Menstrual periods commenced again three months after treatment was begun and Stilbesterol therapy was discontinued. Patient was placed on Thioridazine, one 10 mgms. tablet in the morning and two 10 mgms. tablets at bedtime. She experienced gradual improvement and is now symptom-free when medication is taken regularly. When a lapse in Thioridazine therapy occurs, she has a recurrence of nervousness and insomnia. This patient has been under treatment for five months.

Summary

1. *Thioridazine was employed in seventy-five patients in the menopause for the symptomatic relief of such complaints as tension, depression, nervousness, irritability, headache and insomnia.*

2. *The range of dosage was between twenty to forty mgms. with an average of thirty mgms. daily. The duration of therapy was from four to six months.*

3. *Tolerance to Thioridazine was excellent*

in most cases. Three patients complained of drowsiness which was transient. There were no cases of extra-pyramidal symptoms, liver damage or Parkinsonism.

4. *A high percentage of results was obtained with Thioridazine for the relief of most menopausal symptoms. Ten cases in the series with hot flashes did not obtain relief of this complaint, however, other symptoms were favorably influenced.*

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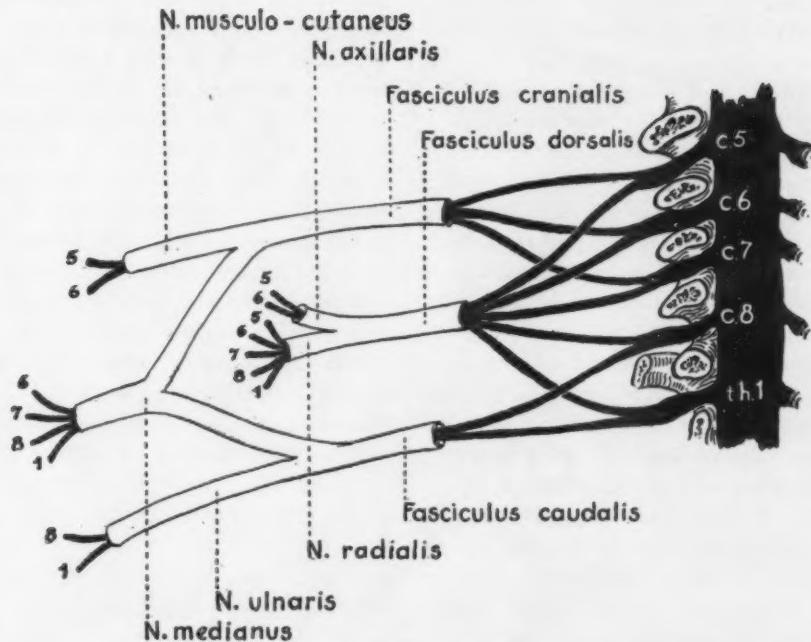


Diagram of Components of Brachial Plexus Showing Relation of Roots to Nerves.

The Office and Home Management

Here in South Louisiana, less than fifteen miles from this clinic, lie countless acres of swamp lands. Many wild deer find the bayous and moss-laden cypress trees a pleasant habitat. Several years ago, when we first went out to hunt these deer on weekends, natives pointed out a unique facet of nature to us. By an innate drive, deer will seek either the brackish waters or the salt licks, thereby ingesting varying amounts of sodium and chloride, and taking as needed, either free water or an electrolyte solution.

Unfortunately, man is not so endowed by nature as is the deer. Man does not hunger for salt to satiate his internal chemistry. Thirst is a completely unreliable index to man's needs. The edematous man will often be very thirsty and, likewise, the dehydrated man will often refuse fluids. Man cannot, through selective desires, be relied upon to balance his internal chemistry.

For those of us who are concerned with the management of infants and children, one of the most common and vexing problems is the early management of vomiting and diarrhea. Certain physiological handicaps make this problem one of much more potential danger to the pediatric patient than to the adult. An adult has about fifteen liters of fluid in the extracellular compartment, while infants and children have only about 1.5 liters. The average daily intake and urinary output of the infant is about seven hundred cubic centimeters contrasted to two thousand cubic centimeters for the adult. Thus, a child will exchange

about one-half of his available body water mass in one day, while an adult will exchange only one-seventh of his fluids. From this we can conclude that the infant and child will develop maladjustments of his body water and body electrolyte chemistry seven times more readily and seven times as severely than will the adult.¹ Those, who deal with infants and children, soon learn this from experience, without any above such "bookish explanation." However, there is an additional handicap for the infant which we shall point out next, that many of us either are unaware of or that we lose sight of. This is the relative inability of the infant or child's kidney to concentrate urine and rid the body of excessive electrolytes or chemicals, when compared to the concentrating powers of the adult kidney.² Thus, excessive amounts of electrolytes or milk mixture with high solute loads ingested by a child with vomiting and/or diarrhea will often result in relatively more water loss and a concentration of electrolytes in the body. It is in this manner that an infant fed too concentrated an electrolyte solution or given a food and skimmed milk solution in the presence of full-blown diarrhea develops the "hypernatremic syndrome." Hypernatremia, as the name implies, means excessive sodium in the body. This condition is most often iatrogenic or doctor produced. We should be aware at all times of the aforementioned poor concentrating power of the kidney of the infant and child and thus avoid the administration of any oral fluid with hypertonic electrolyte mixtures. When

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Thibodaux, Louisiana

of Vomiting and Diarrhea

we speak of hypertonic electrolyte mixtures, we mean a solution that contains more concentrates of chemical than the extracellular body waters of our patient.

By comparison, the extracellular body water of the adult and child are about as follows in meq/L.:

	ADULT	CHILD
Sodium	140	140
Chloride	103	110
Bicarbonate	27	20
Potassium	3.8-6.0	3.8-6.0

Milk, some commercial electrolyte solutions, and food will contain many times the above values in electrolyte concentrations. In health and where plenty of free water or plain water is available, the kidneys and the factors of gastrointestinal tract absorption will control these chemicals and keep them at the normal concentrations. But in diarrhea and the absence of enough free water, the poor concentrating power of the kidney of the infant and child will allow a build up in the body of chemicals. When excessive sodium is retained in the body, hypernatremia results.

Now, as a practical point, we can conclude that one of the first guiding principles in the management of infants and children who have vomiting and/or diarrhea, when early dehydration is threatened, or is developing is to supply enough free-water or non-electrolyte water. By free-water or non-electrolyte water we mean simply plain water. In recent years, so much emphasis has been placed on "fluid and electrolyte balance" that the tendency has

been to give electrolytes in all fluids. We have seen numerous patients, under the care of "other Doctors," who have advised the mother to never give plain water to the babies who have diarrhea. This of course is an error, a certain amount of plain free water is a must in the management of these children.

Now, having placed some emphasis on the need for plain water in the management of diarrhea and vomiting, let us next turn to the need for the electrolytes. Normally in our daily diet, we partake more sodium, potassium, chloride, and bicarbonate, than we need. Water and electrolytes are not destroyed in the body and are only absorbed and retained in amounts necessary to maintain the normality of our internal environment. In disease, great quantities of electrolytes and water are lost from the diarrheal stools. Certainly they should be resupplied, but always in concentrations less than the normal body content or that is to say as a hypotonic fluid. Some six or seven years ago, we set out to prepare a solution that: (1) would be hypotonic, (2) would have patient acceptability, and (3) could be easily prepared in the home. Sodium and chloride were no problem; everyone has table salt at home. Bicarbonate is easy too, nearly every home has cooking soda in the pantry. Potassium was a little harder. Coca-Cola® has some potassium; there is 52 mgms. per 100 c.c. or about roughly 100 mgms. in a six-ounce bottle of Coca-Cola. Carrots are very high in potassium. There are 410 mgms. for each one hundred grams of carrots. Thus

with five common things found at home, we can construct a hypotonic electrolyte solution that will be cheap and taste good; these are carrots, cooking soda, table salt, Coca-Cola and water. First of all, it was decided to prepare all the electrolytes in plain water, using one-half of the diluting media as water. This would allow it to be stored in the refrigerator where it could be chilled as one awaited its need.

For the other half of the diluting media, we choose Coca-Cola which is kept at room temperature. This gives the advantage of a cool, palatable solution yet not too cold to cause nauseousness. Another advantage of Coca-Cola was pointed out by Dr. J. Edmund Bradley in 1942. He found that the high concentrates of xanthine in Coca-Cola syrup was effective in reducing gastric tone and would control vomiting. This work led directly to the development of the product Emetrol.® Two carrots are boiled in ten ounces of water until about two ounces of fluid remain and this is strained into a quart container. Two carrots have the average weight of 130 grams, and will thus contain about 540 mgms. of potassium. Next, four teaspoons of sugar are added to the container, one teaspoon of cooking soda and one teaspoon of salt. Plain water is now used to fill the container to one quart. This solution is stored in the refrigerator and chilled until needed. Now, as needed, it is combined with an equal part of Coca-Cola. The final dilution gives a hypotonic solution of roughly the following strength:

CONSTITUENT	% SOLUTION	CONCENTRATION IN MEQ./L.
Sugar	10.35%	—
Sodium	0.18%	78
Chlorides (as NaCl)	0.32%	54.6
Potassium	0.017%	4.4
Bicarbonate	0.16%	18.8 in millimoll per L.

As we see from these figures we have a hypotonic solution in all except sugar.

All that remains now is how to best employ

this solution in the management of vomiting and diarrhea. Let us first consider the cases on hand. If the disease process is long standing; if dehydration is severe, obviously then, these patients must be managed in a hospital and an entirely different set of principles will then apply.

For some time, it was a great source of concern, to me, as to how to instruct a parent in the observation of their child for signs of dehydration. Such classical signs as sunken eyeballs, loss of skin color, and weight loss are hard to be judged by the untrained parent. Also, these signs are late signs and are present only when a child is severely dehydrated. How many times has my phone rung at night with a parent telling me their child had vomiting and numerous loose stools: The question always foremost in my mind was, "Does dehydration exist?" Can I safely tell these people to begin a starvation period and bring the child in next morning or should he be brought in now? The average parent has no conception of the term dehydration. Thus it becomes obvious that a question such as, "Is the child dehydrated?" would be foolish. I finally arrived at the following system which has worked well for me. One of the early signs of dehydration is dryness of the mouth. Also, there is the early sign of thick, ropey-spit in the mouth. At night, we ask the parent to place a finger on the tongue, to see if the tongue is wet enough to lick and stick a postage stamp. We also use this method to give a sign to the parent of a child in the office. We tell them to watch the tongue and the moisture in the mouth, and should it become dry so that they thought there was not enough spittle to wet a postage stamp to call us right away, as this may be an early sign of dehydration.

Here, we will be concerned only with the early instances of vomiting and/or diarrhea which have either no dehydration by clinical signs or only early minimal signs. Because vomiting is such a nonspecific symptom, and because so many serious diseases such as poliomyelitis, meningitis, surgical abdominal disease, etc., can present itself with vomiting

as the only initial symptom; all of these cases merit complete history and physical examination prior to treatment. When it has been ascertained that we are dealing only with non-specific vomiting and/or diarrhea, we have found the following mode of treatment most satisfactory.

First let us consider fever. It is well to remember that dehydration is almost invariably accompanied with fever. Unfortunately today fever has but one meaning to some of us, and that is to give a "shot" of penicillin. In the management of ninety-five percent of the patients having common epidemic vomiting and diarrhea, there is no benefit to be derived from the administration of penicillin and antibiotics. The vast majority of these children have viral diarrhea and vomiting. These viruses are completely unaffected by antibiotic therapy. The fever of dehydration is best managed simply by *rehydration*. Before vomiting is controlled, alcohol sponges will suffice for fever, after vomiting is controlled, aspirin can be given. The rare cases seen due to enteric organism (bacterial) that will benefit from antibiotics or sulfa therapy can best be determined by stool culture and sensitivity tests.

Next, the symptom of vomiting, which occurs during the most hazardous phase of this disease, often creates the most troublesome of management. In recent years, there has been a rash of organic compounds, which manufacturers have extolled as the total answer to vomiting. Along with them came the numerous side effects well-known to most of us. We have tried many of these compounds and have found them very little merit in this disease. *The most effective measure to stop vomiting, of nonspecific etiology, is the discontinuance of all fluid and food by mouth.* We do use a product of the Kinney Co., Emetrol.® This is prescribed in a one-ounce bottle with the instructions to start after the starvation period. The starvation period has been established by personal experience to be four to six hours at birth to three years and six to twelve hours at three years or greater. Emetrol is given in the dosage of one teaspoon every

fifteen minutes for three doses. Then forty-five minutes later, the hypotonic electrolyte solution is started. Initially this must be given in small sips; then, as tolerated, the amount is increased as long as there is no vomiting. The mother is also instructed to give plain water along with this electrolyte mixture including Coca-Cola during the first twenty-four-hour period. If vomiting is the only problem, another twenty-four-hour period with gradual return to regular diet is all that is necessary. During this next twenty-four hours, we use one-half water plus one-half skimmed milk, mashed ripe banana, scraped raw apple, cooked cereals.

If diarrhea is also a factor, we prescribe a mixture of kaolin and pectin manufactured by the Upjohn Co., Kaopectate.® This is given in the dosage of one teaspoon after each loose bowel movement. We admit that paregoric is a time-honored medication; however, we do not employ this drug in the management of diarrhea. We feel the very mode of action is contrary to nature's natural course of this disease. The loose watery stools are nature's attempts to rid the gastrointestinal tract of the offending toxins that cause the disease. To paralyze the gastrointestinal tract will result in retention of these toxins and prolongation of the disease. Hence, we utilize only the absorbent and demulcent action of koalin and pectin in the inflamed gastrointestinal tract. As rehydration and correction of internal electrolytic balance is accomplished by the selective nature of renal function, the intestinal inflammation will abate and the diarrhea will subside.

By this method we have successfully managed some several hundreds of infants and children. There is but one additional measure we sometimes employ. In the early phases, if the vomiting is severe, we inject, according to age phenobarbital or we install a portion of a seconal capsule in the rectum. This offers sedation and antiemetic action during the initial starvation period.

In order to convey this information to our patients, we give an instruction tear sheet

INSTRUCTIONS FOR CHILDREN WITH VOMITING AND/OR DIARRHEA

The most important single factor in the proper management of a patient with vomiting and/or diarrhea is maintenance of body fluids and chemical balance. In the vast majority of instances this can be done at home by the use of the following instructions and electrolyte solution. An electrolyte solution is a fluid (water) that contains certain chemical elements that are lost from the body by vomiting and the passage of multiple liquid stools. In rare cases the vomiting and diarrhea is so marked, that body water and chemicals are lost too fast to be replaced by home treatment and a state of dehydration develops. In these cases hospital treatment becomes necessary. One of the first principals of treatment is giving the intestinal tract, which is diseased—rest. Thus all foods are stopped. Use the steps below that are checked for your child.

Step No. 1. Nothing by mouth for hours.

Step No. 2. Give one teaspoon of the medicine prescribed every 15 minutes for 3 doses. Then wait 45 minutes after last dose.

Step No. 3. Prepare an electrolyte solution as follows: Boil two medium carrots till mushy in 10 ounces of water. Strain the juice into a quart container. (This supplies the chemical potassium).

Add 4 teaspoons of sugar. (Sugar)

Add 1 teaspoon table salt. (Sodium and chloride)

Add 1 teaspoon cooking soda. (Bicarbonate)

Fill to one quart with boiled clean water. We now have an electrolyte solution with water, potassium, sugar, sodium, and bicarbonate. This will replace and maintain the chemicals and water in the body. Place this solution in the ice box, then when ready for use, mix an equal part of the solution with an equal part of Coke. (Example: 1 ounce of solution and 1 ounce of Coke). Give electrolyte solution and Coke mixture as tolerated every 3 or 4 hours. It is best to start with small amounts at first, then gradually increase. Once there is no vomiting, the mixture may be given as much and as often as the child will take it. Absolutely no food, milk or other feeding except the electrolyte solution as needed.

Step No. 4. During the first 24 hour period if no vomiting is observed and the child is taking the electrolyte-Coke mixture well, then teaspoons of the prescribed medicine is given after each loose bowel movement.

Step No. 5 After 24 hours of electrolyte-Coke mixture, the following may be added to diet and given for 48 hours.

b. Mashed ripe banana or banana flakes mixed with skimmed milk and water
a. $\frac{1}{2}$ part water plus $\frac{1}{2}$ part skimmed milk.

mixture, or banana flakes using directions on can.

c. Scraped raw apple.

d. Any of the precooked cereals such as Pablum brand, Rice, Barley, Oatmeal, Mixed Cereal or High Protein Cereals.

Do not use paregoric mixtures as these decrease intestinal motility.

Do not use rice water mixture, etc. Follow only the above written instructions.

(shown on page 1016) to the parents. The steps that we desire to be followed are checked, as determined by the case. All steps are employed if vomiting and diarrhea both are to be treated. If vomiting alone is the case, then only Step 4 is omitted. If diarrhea alone is

the case, then Steps No. 1 and No. 2 are omitted. The prescription in Step No. 2 is a one-ounce bottle of Emetrol. The prescription in Step No. 4 is a four-ounce bottle of Kaopectate.

Summary

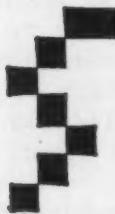
A palatable, hypotonic electrolyte solution that is economical and easy to prepare has been devised by the author. The chemical content and ionic concentrations have been ascertained in our laboratory by Mr. J. N. Frazer, M.T. (A.S.C.P.). A method of em-

ployment of this solution has been outlined. This, in the hands of the author, has sufficed in the management of ninety-five percent of the cases of vomiting and/or diarrhea seen in his clinic practice.

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The Childrens Clinic,
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MEDICAL TEASERS

A challenging crossword
puzzle for the physician.
SEE PAGE 57a



SYDNEY JACOBS, M.D.
New Orleans, Louisiana

Pneumonia in a Warm Climate

The fact that pneumonia is a fairly frequent and sometimes fatal disease in subtropical climates is seldom recorded in medical literature, since the great majority of reports have been derived from studies on patients seen in a cold environment. The great frequency of pneumonia in tropical areas and its potentiality for causing death has recently been emphasized by Leather¹ who observed that almost ninety percent of the cases were pneumococcal with very few recognized viral infections. In previous reviews of pneumonia, it was pointed out that lobar pneumonia is not often seen in New Orleans but that bronchopneumonia (presumably of viral origin) is relatively common.

In a larger study on all cases (three hundred and twenty-seven) of pneumonia treated at Touro Infirmary in 1954, it was reported that ninety-two percent had bronchopneumonia, eight percent had lobar pneumonia, that sixty-two (twenty-two percent) had died of the disease but that only twenty-three (6.5 percent of the total series) could properly be said to have succumbed to this disease as a primary entity (Chart I). The remainder represented the type of death following various protracted illnesses. The calendar year 1954 had been chosen as a "normal" or representative year. There were adequate hospital beds for all patients needing hospital facilities. Antibiotic therapy had become reasonably standardized and there was no excess mortality such as was later caused by the epidemic of Asian

influenza. Private, semi-private and public ward patients were included in this study without selection to represent the socio-economic spectrum of pneumonia occurring in white persons of all ages in the city of New Orleans.

The present report deals with the twenty-three fatalities noted during this calendar year. One death resulted from pneumococcal lobar pneumonia; twenty-two were from bronchopneumonias having many of the characteristics of viral infections. The pertinent data are displayed in Table I. Prognostic information concerning pneumonias of viral or undetermined etiology is lacking. It is helpful to refer to a formulation of the classical prognostic data according to Wood.² Pneumococcal lobar pneumonia is apt to end fatally² when the following circumstances prevail:

- 1) old age and infancy, 2) late treatment,
- 3) infections with certain types of pneumococci (II and III), 4) involvement of more than one lobe of the lung, 5) leukopenia, 6) bacteremia, 7) jaundice, 8) complications such as shock and meningitis, 9) pregnancy especially during the third trimester, 10) other diseases, especially those of heart and cirrhosis of the liver and, finally, 11) alcoholism.

It will be noted from Table I that the one fatality in lobar pneumonia occurring among the twenty-five patients observed in this series was in a seventeen year old girl in the fifth

From the Department of Medicine, Touro Infirmary of New Orleans, Louisiana and the Department of Medicine, The Tulane University School of Medicine.

CHART I—END RESULTS—PNEUMONIA—1954

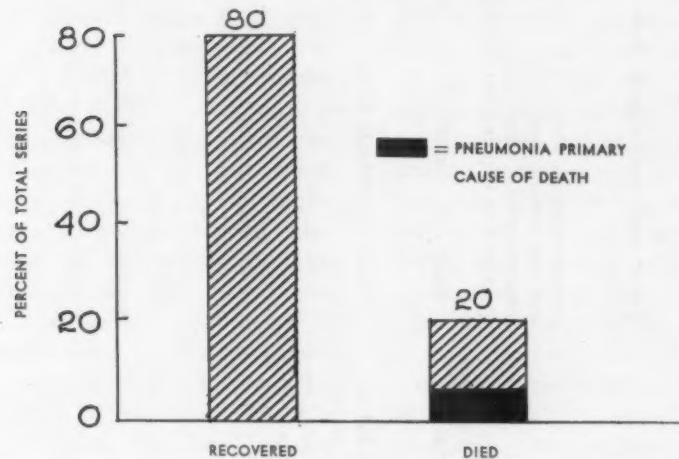


CHART II—MONTH OF ONSET OF PNEUMONIA—1954

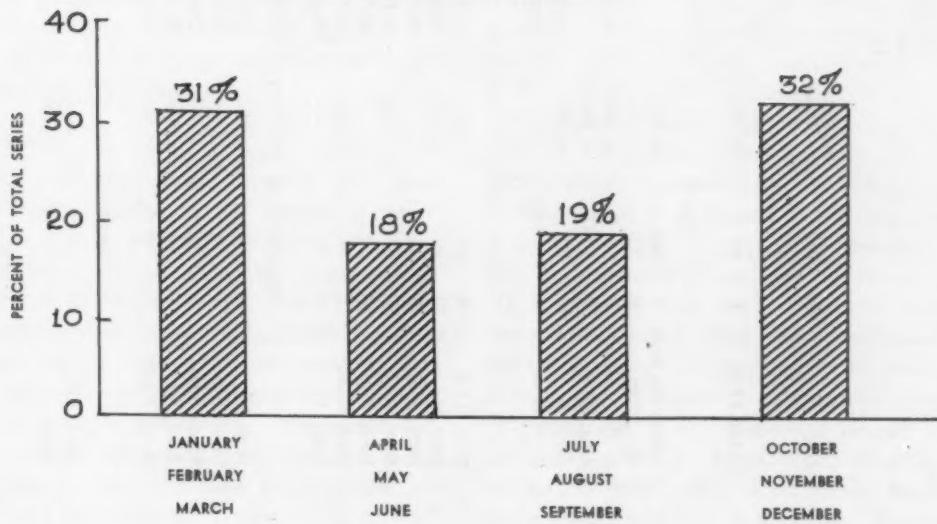


TABLE I PNEUMONIA FATALITIES

CASE NO.	TYPE	SEX	AGE	HIGHEST WBC COUNT	CONCURRENT DISEASE	COMMENT
					LOBAR PNEUMONIA	
LUL: Left Upper Lobe						
212 F.J.	Lobar LUL	F	17	19,800	Preg. 5-Mos.; Myocarditis	Abrupt onset, early signs of shock
Bron: Bronchopneumonia						
209 D.	Asp.-Bilat. Bron.	F	NB	18,400		
288 S.	Bilat. Asp.	F	NB	—	aspirated amniotic fluid	
102 W.	R. Bron. Asp.	F	7½ Days	16,500	aspirated amniotic fluid	
107 J.H.	Bilat. Bron.	M	5 Mos.	16,800	ileostomy; postop. state	
234 G.	Bron. R.	M	NB	16,200	paroxysms of vomiting and coughing	
263 J.M.	Bron. Bilat.	M	18 Mos.	—	frequent resp. tract infect.	
HCVd: Hypertensive Cardiovascular Disease						
IMMATURITY						
27 J.S.	Bron. LUL	F	68	—	Emphysema, ASHD, congestive failure	
147 E.P.	Bron. R.	M	89	22,850	confluent hemorrhagic pneu.	
182 M.F.	Bron. RUL	F	83	—	ASHD	
237 F.F.	Bron. LUL	F	83	—	HCVD	
271 H.S.	Bron. Bilat.	M	59	9,750	ASHD	
298 M.Mc	Bron. Bilat.	F	76	—	HCVD	
327 L.B.	Bron. R.	M	82	18,400	ASHD-aspiration	
				—	Venous Thromboses	
CARDIOVASCULAR DISEASES						
40 W.S.	Bron. L.	M	78	16,800	Emphysema, cor pulmonale	
28 S.C.	Bron. Bilat.	F	80	25,000	Fractured right hip	
122 E.B.	Bron. Bilat.	F	62	—	Chronic bronchitis	
321 L.A.	Bron. Bilat.	F	55	12,800	Diabetes, hepatitis	
88 R.W.	Bron. Bilat.	F	70	16,400	Bronchiectasis, cor pulmonale	
PROGRESSIVE PULMONARY DISEASE						
103 J.F.	Bron. Bilat.	M	64	—	ASHD, diabetic gangrene	
114 J.Mc	Bron. L.	F	82	25,100	Carcinoma of uterine fundus	
POSTOPERATIVE STATE						
139 O.L.	Bron. Bilat.	M	66	4,200	Multiple myeloma	
143 J.W.	Bron. Bilat.	M	59	—	Boeck's sarcoid	
MISCELLANEOUS						
					acute congestive heart failure	
					followed sympathectomy	
					followed hysterectomy	

Code:

NB: Newlyborn

ASHD: Arteriosclerotic Cardiac Disease

HCVd: Hypertensive Cardiovascular Disease

month of her first pregnancy. The gravity of bronchopneumonia at the extremes of age is evident; seventy-five percent of the fatalities occurred past the age of fifty-five years and twenty percent occurred among those two-years-old or younger. The menace of co-existing disease is pointed up by the fact that ninety-five percent of the fatalities occurred in those who had other ailments, sixty-five percent being cardiovascular. Interestingly enough, leucopenia did not seem to be the prognostic sign as in pneumococcal lobar pneumonia; only one patient who died exhibited this phenomenon and he had been treated several years for multiple myeloma. In contrast, it was noted that in forty-four percent of those who recovered from pneumonia, the highest white blood cell counts were less than 13,000 during the height of the febrile episode. There was some relation between the season of the year and the month of onset (Chart II) but not to the outcome. Whereas thirty-seven percent of the instances of disease started in the warmer months, and sixty-three percent in the colder months, the respective case-fatality rates were 6.1 percent and 6.7 percent. It should be recalled that pneumonia has long been regarded as a scourge in the tropics,¹ although statistics are scant regarding the types of pneumonia encountered.

Discussion

The fatalities herein discussed were encountered in review of the records of three hundred and twenty-seven instances of pneumonia treated by a large number of physicians, each one of whom exercised his individual clinical approach to diagnosis and therapy. Unfortunately, the majority of these patients did not have adequate bacteriological investigation of the cause of pneumonia. Therefore, the final division into lobar and bronchial must rest entirely on morphology as suggested by the x-ray film, and the etiology may not always have been satisfactorily established. The clinical data on the records suggest that the

great majority of the bronchopneumonias were due to viral infections. The great similarities in clinical course among those who recovered after being treated in such diverse fashion suggest that recovery was due in great majority to factors other than the particular antibiotic employed. Relatively low leukocyte counts, precedence of the pneumonia by prolonged upper respiratory tract symptoms, involvement of multiple organ systems with relatively mild symptoms before or after the pneumonia, all lend to the suspicion that the bronchopneumonias were witnessed as part of a viral state rather than as the isolated dramatic entity which is pneumococcal lobar pneumonia.

The patients who died exhibited many of the same phenomena leading to the clinical impression that these two were manifestations of the viral state. But somehow, the victims were not as fortunate as those who recovered. Death may be traced more to the physical state of the patient himself, than to the type of infection he had. Obviously, climate has some influence. Pneumonia occurred almost twice as often in the colder months as in the warmer (sixty-three percent contrasted with thirty-seven percent). The closeness of the respective mortality rates (6.7 percent and 6.1 percent) clearly indicated that it was not the weather alone. Without antibiotics specifically capable of combatting viruses as penicillin combats the pneumococcus, we may still expect a fairly high case-fatality rate in bronchopneumonias of viral origin. Furthermore, we must learn to spend the requisite amount of time in diagnosing pneumonias, to determine which patients need extra supportive care. Since viral infections show evidence of increasing in incidence and prevalence, the precautions which are applicable to the management of pneumonia in a semi-tropical climate are generally advisable. Bronchopneumonia is a particularly grave affliction for those who are at the extremes of age, or who have coexisting serious systemic disease, especially if it involves the cardiovascular system.

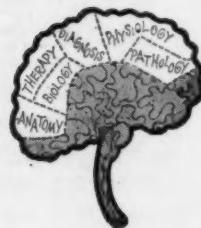
Conclusions

1. Three hundred and twenty-seven white patients who had pneumonia, who were of all ages and various socio-economic levels were treated in a single institution (*Touro Infirmary*) in New Orleans, Louisiana in 1954.
2. Of these, ninety-two percent had bronchopneumonia, eight percent lobar pneumonia.
3. The only death among twenty-five patients who had lobar pneumonia was in a seventeen-year-old primagravida.
4. Approximately, twice as many instances of pneumonia were observed during the colder months as during the warmer months, but the mortality rate was reasonably constant (6.1 percent to 6.7 percent).
5. Twenty-three patients (6.5 percent of the total series) succumbed to pneumonia as a primary disease.
6. In a subtropical climate, bronchopneumonia may be the cause of death when it affects those who are less than two or more than fifty-five-years-old, or those who have a serious coexisting, particularly cardiovascular, disease.
7. Leukopenia does not have an ominous portent in the types of bronchopneumonia reported in this paper.
8. Careful attention to refinements of diagnosis and prognosis in pneumonia may be more valuable to the patient than the type of antibiotic employed.

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508 Medical Arts Building



MEDIQUIZ . . .

Working alone or with your colleagues you'll find this is no snap.

PAGE 79a.

The Prophylactic Use of ANTIBIOTICS

DR. PERRIN H. LONG, Moderator
*Chairman, Department of Medicine,
the Downstate Medical Center,
State University of New York.*

DR. ROBERT AUSTRIAN
*Professor of Medicine, Downstate
Medical Center, State University
of New York.*

DR. DAVID E. ROGERS
*Chairman, Department of Medicine,
Vanderbilt University Medical School.*

Before the discussion commences, ladies and gentlemen, I would like to introduce the panel. On my left is Dr. Robert Austrian, who is Professor of Medicine at the State University of New York, Downstate Medical Center in Brooklyn, and on my right is Dr. David Rogers who is Associate Professor of Medicine at Cornell Medical School but who unfortunately will be leaving the metropolitan area sometime this summer to accept the call to the Chair of Medicine at Vanderbilt University. Now, I will be very brief in starting the panel discussion off. This afternoon it will discuss the uses of antibiotics in the prophylaxis of infection with special reference to the problem which is now facing all of us, namely the infections produced by resistant

staphylococci. This is a wide area which we will try to cover, if only briefly. Our discussion will be divided into prophylaxis of non-surgical infections of the eye, ear, nose, sinuses, throat, heart, lungs, and the gastrointestinal, urinary, and genital tracts, and the prophylaxis of infection in so-called clean operations, of impending surgical infection, and the prophylaxis when the infection is established but when surgical intervention must take place. We will also attempt to discuss at some length the prevention of staphylococcal infections, and we will try to leave time for questions and discussion. I would like to finish in about one hour. As this is a rather large order, I will start right out by asking Dr. Austrian, who is at your right, the following question. Currently, in the epidemic of influenza and common colds with which so many of us have been concerned with in the last month, the question is raised: Should antibiotics be used because of fear of secondary invaders producing infection? Now, as far as viral infections are concerned define what you mean, what you understand, by the term secondary invaders? What are the secondary invaders that we hear so much about?

DR. AUSTRIAN: Secondary invaders are usually bacteria which become established in some part of the respiratory tract following the

Held at the New York Academy of Medicine, 2 East 103 Street, New York 29, N. Y. on April 10, 1959.

initial insult produced by a virus. There are any number of experimental models which have been studied in the laboratory which show that damage to the epithelium of the respiratory tract leads to increased susceptibility to bacterial infection. When injury of this type is produced by a virus such as influenza the superficial lining of the respiratory tract is damaged. The ease with which bacteria can be implanted in such areas of injury is increased; and, when such infection by bacteria is established, it is spoken of as secondary infection.

DR. LONG: Well, now, going on with the same question. As far as the upper respiratory tract is concerned, by which I mean the nose and throat, and let us say the larynx, but not the trachea or bronchi, or lungs, what organisms do you think are really secondary invaders—and let us say pathogenic invaders?

DR. AUSTRIAN: The organisms which usually cause disease in the upper respiratory tract are the group A Beta hemolytic streptococci, pneumococci, and staphylococci.

DR. LONG: What do you think about the influenza bacillus in that area?

DR. AUSTRIAN: I believe that occasionally the influenza bacillus may cause sinusitis.

DR. LONG: Well now, Dr. Rogers, you have just had influenza and are now getting over it. I want to ask you a question because you have survived. What do you think the most common secondary invaders are which produce further injury and further disease when you get below the larynx, in other words, tracheitis, bronchitis, or pneumonitis.

DR. ROGERS: I think the number of organisms that will do this are relatively limited. They are the same organisms which cause bacterial pneumonias in the absence of influenza. I think the most common secondary invader is the pneumococcus. The one which has given us far and away the most trouble has been the staphylococcus. Rarely does group A Beta hemolytic strep produce pneumonia. During the pandemic 1918-1919 streptococcal pneumonia was a not uncommon problem, though I think all of us have really seen this so infre-

quently as to consider it an unusual problem in recent years. The influenza bacillus must be a very rare cause of secondary disease in the lower respiratory tract—post influenza in adults.

DR. LONG: Dr. Rogers, the question is constantly being raised: Should a patient who has clinical influenza be given antibiotics prophylactically to protect him from secondary invaders and secondary infection? What is your thought on that particular matter?

DR. ROGERS: I realize my feelings are very definite. I think categorically it does *not* work. There is increasing evidence that we in no way reduce the incidence of secondary bacterial infection by using drugs prophylactically. I might parenthetically indicate what I would guess the incidence to be. I think it is very low. I think less than one in a hundred patients with influenza are going to develop secondary bacterial complications, and I personally do not use antibacterial drugs prophylactically. I do use them when I think that secondary infection has arisen.

DR. LONG: Dr. Austrian, what would be your opinion relative to influenza—prophylactic use of antibiotics in influenza?

DR. AUSTRIAN: I am completely in accord with Dr. Rogers. I think the only thing that one may accomplish by administering antibiotics prophylactically is perhaps to end up with a group of patients who have secondary bacterial infections which are highly refractory to one's therapeutic efforts. Because there are organisms which are capable of giving rise to resistant mutants which may become established when antibiotics are given, prophylactically, one may have a much more difficult problem on his hands than if he were treating uncomplicated pneumococcal pneumonia.

DR. LONG: Do you feel the same in respect to the prophylactic use of antibiotics in the common cold?

DR. AUSTRIAN: I do.

DR. LONG: Do you feel that same way?

DR. ROGERS: I think other disease processes may serve as a model. Dr. Louis Weinstein did some interesting studies in measles.

We know a certain number of children who have measles are going to develop secondary bacterial pneumonias. The percentage is appreciable. In the early days of antimicrobials, it made sense to believe that we could treat all children who had measles with antibiotics and so prevent this problem. Not only did we not prevent secondary bacterial pneumonias, but precisely what Dr. Austrian has indicated has happened. They had just as many pneumonias, but instead of being pneumococcal pneumonia, they were caused by organisms which were much more difficult to treat when infection had arisen.

DR. LONG: I think that just about covers the belief of most people who are very deeply interested in this problem today, that is, in the viral diseases of the upper respiratory tract, antibiotics in general are useless as prophylactic agents. I remember that Dr. John Dingle once said at a meeting of the Association of American Physicians, that 99.9 percent of the upper respiratory tract diseases that a doctor sees are viral in origin, and that one would not use antibiotics for prophylactic purposes. Now in the area of the head, would you make any exceptions at all in the instance of the common cold, Dr. Austrian? Suppose the following question was put to you. I have a patient who gets a flare-up in her sinuses every time she has a cold, and cultures show that she generally has pneumococci, occasionally staphylococci, but it is generally pure culture of pneumococci. Should I give her antibiotics everytime she gets a cold in order to prevent a flare-up of her sinusitis?

DR. AUSTRIAN: Well, here I think one is on somewhat debatable grounds. It is conceivable that a patient like this might be benefited by the administration prophylactically of a tetracycline. This depends, I think, to some extent on the pathologic change present in the patient's sinuses, how well vascularized the lesions are, how much purulent material is already present in the sinus at the time you start administering the antibiotic, and of course the results will be variable. I think most of the evidence that is available regarding the

value of this type of practice is rather equivocal.

DR. LONG: Do you agree with that Dr. Rogers?

DR. ROGERS: I think so. I realize I weasle out of terming it "prophylaxis" in some of these situations when it is clear that a patient develops a rather specific bacterial problem each time he develops a viral infection. In these situations, I actually treat the patient with antibiotics on the assumption that he has a bacterial infection each time that the viral infection arises. This may seem a minor point to the group, but I think it's an important one. I am convinced that prophylaxis does not work, but actual treatment does.

DR. LONG: Dr. Rogers, can you think off-hand of any conditions affecting the nose in which you would use prophylactic antibiotic therapy?

DR. ROGERS: I don't believe I can, Dr. Long. Perhaps in certain epidemic situations where I was attempting to prevent people from being colonized with meningococci in an Army camp or something of that sort.

DR. LONG: Well, we will go into that later.

DR. ROGERS: I can't think of any local situation that would prompt me to use antibiotics prophylactically.

DR. LONG: Can you think of any, Dr. Austrian, which would have to do with the ear?

DR. AUSTRIAN: No, I think not.

DR. LONG: What would you say about the rhinopharynx? We won't go into, as I said, to the meningococcus problem, because that's quite separate.

DR. AUSTRIAN: Well, unless you include in that the problem of Beta hemolytic streptococcus in relation to the patient who has had rheumatic fever, again my answer would be negative.

DR. LONG: Well, I think seeing that that site of infection or infestation is in the tonsils, that we might as well take it up right at this point. What is your feeling relative to the use of sulfonamides and/or antibiotics for the prophylaxis of rheumatic infection in children and adults?

DR. AUSTRIAN: Both types of drugs have been used. Attempts to achieve prophylaxis against Beta hemolytic streptococcal infection with sulfonamide may fail ultimately because of the development of resistance on the part of the organism to the drug, and such was the experience in certain closed population groups during the last war. Penicillin, I think, is the agent of choice if one is endeavoring to prevent colonization in the upper respiratory tract with group A Beta hemolytic streptococci. There is pretty good statistical evidence to indicate that the incidence of acute rheumatic fever is reduced in individuals who have had one such attack or even in an exposed population of individuals who have not previously had rheumatic fever if one is able either to prevent or to eradicate very promptly infections caused by group A Beta hemolytic streptococci. And the drug of choice appears to be penicillin. Administration parenterally in a long-acting form is most satisfactory, because one does not have to be concerned about the reliability of the individual taking the drug by some other route. Prophylaxis with other antibiotics such as the tetracyclines has not been as satisfactory when they have been studied under conditions comparable to those used in investigating penicillin.

DR. LONG: What's your feeling about that Dr. Rogers?

DR. ROGERS: I would agree completely. I think we might separate the prophylactic situation from the treatment situation, I think almost all the drugs which Dr. Austrian has mentioned have been effective in preventing patients from becoming colonized with Beta hemolytic strep. In other words, in the penicillin-sensitive patient, I think it is perfectly appropriate that he get sulfadiazine, but I think it is worth stressing one point made by Dr. Austrian, that once faced with a patient who has Beta hemolytic strep in his throat, clearly the drug of overwhelming choice is penicillin. Streptococci are not eradicated by sulfonamides.

DR. LONG: Would you give penicillin by injection?

DR. ROGERS: I think that all the studies on prophylaxis have indicated that optimal prophylaxis is achieved with long-acting benzathine penicillin given at least monthly.

DR. LONG: How long would you keep that up after an attack of rheumatic infection, Dr. Rogers?

DR. ROGERS: I'm grinning, because I don't have the vaguest idea. My current inclination is to put patients who have established rheumatic fever on almost indefinite prophylaxis. I think there are many arguments about the group beyond the twenties who have had no rheumatic relapses. There I feel much more uncertain of it. Below the age of twenty I have put them on and plan to keep them on, until more information to the contrary develops.

DR. LONG: What do you think, Dr. Austrian, about this matter of how long you should keep up this prophylaxis after an attack of rheumatic infection?

DR. AUSTRIAN: This is beginning to sound planned, but I am essentially in agreement with Dr. Rogers. There is very little evidence about the group over the age of twenty. Certainly I would keep any prepubertal child on penicillin until he was well past adolescence. I am unaware of adequate experimental data which would enable one to make a decisive statement about what should be done in the individual over twenty years of age, and the topic becomes then a matter of opinion rather than fact.

DR. LONG: Well there is a man about four blocks down the street here who has just written an editorial in either *Circulation* or the *American Journal of Medicine*, I forget which, in which he says that rheumatic fever rarely occurs; that is rheumatic infection rarely occurs over the age of twenty-five, and what people are calling rheumatic infection is really a type of streptococcal arthritis, and not rheumatic infection at all, because it does not satisfy enough of the major criteria of Jones to be called rheumatic fever. In other words, people over twenty-five don't get heart lesions. That's the whole point. Now would his point of view,

this is Dr. Friedberg I am talking about, would this point of view influence you any as far as adults are concerned?

DR. AUSTRIAN: I don't know what it would greatly. Two days ago, I saw a 37-year-old man who had an upper respiratory infection followed by polyarthritis and pericarditis which was evident both by physical examination and by electrocardiographic examination.

DR. LONG: How did you know that wasn't a viral pericarditis or benign viral pericarditis?

DR. AUSTRIAN: I don't know it. I don't know how anyone knows that a patient has rheumatic fever except by definition. We do not understand fully the pathogenesis of rheumatic fever and our delineation of the syndrome is purely arbitrary. The diagnosis, therefore, is often an article of faith rather than something which is susceptible to scientific decision. But this man certainly met the criteria of acute rheumatic fever, and the question of whether or not he should be put on prophylactic penicillin was raised. I had to confess then as I do now that I really couldn't answer the question. I would probably keep him on prophylactic penicillin for a year, and then look at the situation again.

DR. LONG: But you wouldn't keep him on just routinely for the rest of his life as has been recommended by some of our good friends?

DR. AUSTRIAN: I would hesitate in the absence of more data to make any such long-range decision.

DR. LONG: Well, I have always been a little worried about the fact that year after year about prophylaxis with benzathine penicillin, and as far as adults have been concerned, I have never gone along with the decision of the committee in that particular area. I wonder now, what you think, Dr. Rogers, about pulmonary infections? What should we do with people who have chronic bronchitis? I'll give you an instance. I have a very close acquaintance, and a very old acquaintance, who now, everytime she gets a cold; coughs, coughs, coughs, and coughs. She has a loose, hacking cough that goes on for weeks and months after,

and she smokes cigarettes, and she won't stop smoking cigarettes, and I know that she won't stop smoking cigarettes. As soon as she gets a cold should she be put to bed and given let us say a tetracycline? What would you do with a patient who every time that they get a cold, coughs, and coughs, and coughs, afterward?

DR. ROGERS: I think, Dr. Long, you are putting your finger on one area where I feel lots of uncertainties exist. Some years ago, I became convinced that prophylaxis was of no value in any of the situations that we have outlined and many others that I am sure we will discuss. I am now less convinced about the patients with chronic pulmonary disease. Certainly a high percentage of these patients who get upper respiratory, viral infections go on to have what looks like a purulent bacterial infection in their tracheobronchial tree. I think that there is at least suggestive evidence that these patients benefit on prophylaxis either throughout the winter months when they have the most difficulties, or on each occasion that they get an upper respiratory infection. Antibiotics may reduce the number of respiratory episodes they have. I say maybe, because I don't think the evidence is perfectly solid. Once we attempted to start a study in this area, treating patients with either placebo or tetracycline for three days out of the week. These were all patients who had chronic emphysema. We stopped the study after several months because there was no question about who was on drugs and who was not. The group that was on drugs had significantly less infections than the group that were receiving the placebo. We now treat patients prophylactically who have chronic pulmonary disease and repeated infections.

DR. LONG: What is your thought about that matter Dr. Austrian? Are you going to disagree a bit in view of what was said a month ago or six weeks ago in Baltimore in that paper we both heard, I think?

DR. AUSTRIAN: No, I don't think I will differ very radically from Dr. Rogers on this issue. The problem is one which is somewhat difficult of analysis particularly when one is

confronted with the task of comparing the discrepant results of different studies. Differences in the selection of patients all influence the outcome of studies like these. But there seems to be emerging a body of evidence which suggests that use of tetracyclines, which will act principally to suppress pneumococci and various strains of *Hemophilus*, (whether these can be typed or not), which seem to play a prominent role in chronic infection of the lower respiratory tract, will reduce to some extent the bacteriological complications which follow viral infections in individuals who have anatomical disturbances in the lower respiratory tract.

DR. LONG: I have a note here which I picked up out of the *British Medical Journal* the other day relative to that, in which the recommendation is made, after a study of forty-two patients who had chronic bronchitis which showed that eighty percent of the patients had acute exacerbations, between September and February. Prophylaxis with antibiotics benefitted this group and the recommendation was made that during that six months of the year when bronchitis is so prevalent in London, prophylaxis with tetracycline should be used.

Now let me ask you a question which I haven't thought about until this minute, and I have been trying to think of questions for this panel for almost a year and a half, suppose you had a period of terrific smog, such as we had two or three years ago in that town in Pennsylvania, and we had a lot of elderly patients, let us say over sixty-five years of age, I just passed my sixtieth birthday, so I'm putting up five years. Would you recommend to all your patients during the period of smog that they should take tetracyclines?

DR. AUSTRIAN: I think not. All of my patients—do you mean all those with diseases of the respiratory tract?

DR. LONG: No, all patients sixty-five years of age and over.

DR. AUSTRIAN: I would not.

DR. LONG: What would you do, Dr. Rogers?

DR. ROGERS: I wouldn't either. I would se-

(Continued in the Next Issue.)

lect the group I thought had repeated respiratory infections and might treat those, but I wouldn't treat them all.

DR. LONG: A rather interesting thing. I was reading in the *British Medical Journal* last night, that the incidence of bronchitis follows very closely the amount of pollution of the atmosphere. I hadn't realized that it followed it so closely, and that if you get out in an area where you have no pollution, you have practically no chronic bronchitis. I hadn't realized that to be a fact before, but they had some very good figures from London on that point.

As you remember, Dr. McVay and Dr. Sprunt, a number of years ago, studied a group of older individuals who were living in nursing homes in a relatively closed community. They gave these elderly people a half gram of Aureomycin, I believe it was that dose, a day, day in, day out, year in, year out, for at least two or three years, and found, in comparison with the control groups which were fairly adequately set up, that the groups receiving Aureomycin had less infection in general.

What would you think about doing this in chronic disease hospitals, in old peoples' homes, places such as those. Would you think that routinely you should give them, if they could afford it, some of tetracycline every day in view, the work of McVay and Sprunt.

DR. ROGERS: I'm not convinced that you should, Dr. Long. I think that perhaps it is worth pointing out that the studies on prophylaxis of McVay and Sprunt in this area, and in others, for example, urinary tract infections, in diabetes and chronic pulmonary disease, stand in sharp contrast to many other studies which made prophylaxis look discouraging. I think studies of prophylaxis are very difficult to set up, and I am personally not convinced that nibbling tetracycline in your older years really prevents much in the way of infection. I think it merely changes the bacterial agents which infect you.

DR. LONG: Would that be your feeling Dr. Austrian?

DR. AUSTRIAN: It would.

Oral Inhalation Therapy

Oral Inhalation Therapy of Ergotamine Tartrate in Headache and Migraine

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It is established that ergotamine tartrate is a highly effective agent for recurrent and throbbing headaches, including migraine and Horton's histamine cephalgia. It is most desirable to use oral therapy in these patients but, unfortunately, ergotamine tartrate has not been particularly effective orally. The results from oral administration are improved slightly when caffeine is added but, even with such a combination therapy, clinical results have not been satisfactory, thus it has been necessary to administer ergotamine tartrate either by injection, or in the form of rectal suppositories. It has been claimed recently that sublingual administration is more effective than oral administration.

More recently it has been found that micronized suspensions of ergotamine tartrate, delivered by inhalation to the highly vascularized epithelia of the respiratory tract are rapidly absorbed. A handy device, delivering an accurately measured dose of aerosolized ergotamine tartrate for inhalation is now available.* This is a report of our experiences with the use of oral inhalation therapy of ergotamine tartrate in patients with recurrent throbbing headaches.

Methods and Materials

Medihaler®-Ergotamine* has been used on twenty-two patients, nineteen female and three male. The age range was twenty-eight to sixty years for the females, and nineteen to fifty-one for the males. The major complaint was headache, usually severe. The types of headache were as follows: migraine, seven; Horton's syndrome, one; hemilateral headache, three; nervous headache, two; tension headache, two; severe recurrent throbbing headache, four; and severe headache, three. All of the patients were given Medihaler-Ergotamine, and no other drugs were given unless Medihaler-Ergotamine failed to provide relief. The usual dose of Medihaler-Ergotamine was 1 to 2 inhalations, given about five minutes apart.

Results

Complete relief was obtained by six of the seven migrainous patients, and good relief by the seventh patient. The relief was prompt, usually within minutes. One patient with Horton's syndrome obtained complete relief within minutes. In three patients, with severe hemilateral headache, complete relief was obtained by two, the third had no relief. In four patients with "nervous" headache, one had complete relief, but three reported no relief. In three patients with generalized "severe" headache,

*Medihaler®-Ergotamine, Riker Laboratories Inc., Northridge, California.

complete relief was obtained by two, and no relief in the third. Two patients with tension headaches reported no significant benefit from the therapy; one patient with periodic headaches, and one patient with a "hangover" headache reported no benefit.

One patient (female, aged sixty) with migraine, previously had been intolerant of oral ergotamine tartrate tablets, since these consistently produced extreme nausea and vomiting. She had an excellent response, within minutes, to the inhalation of ergotamine tartrate but thought that injections of ergotamine were a little more effective in controlling her nausea. Another patient (female, aged fifty-six) reported that the inhalation of ergotamine tartrate provided about 75% relief from her attacks of migraine. Addition of meprobamate and aspirin provided complete relief. Another patient with a severe throbbing headache, not typically migraine, reported good relief within five or six minutes after the inhalation of ergotamine tartrate, but also required aspirin plus phenobarbital for complete relief.

Side actions were not a problem. One migrainous male patient (aged forty-two) experienced complete relief within five minutes, after 2 to 3 inhalations of ergotamine tartrate, but experienced mild nausea. This was relieved by administration of 5 mgms. prochlorperazine. Another patient, (male, aged fifty-one) with left hemilateral cephalgia, had complete relief with 3 inhalations of ergotamine tartrate, but experienced mild nausea. Use of only 1 inhalation, early in the attack, controlled the headache completely, without producing nausea. A third migrainous female patient (aged thirty-eight) had complete and prompt relief with 2 inhalations of Medihaier-Ergotamine. However, she felt "dizzy" for about three hours after relief following inhalation of or injections of ergotamine tartrate.

One patient (male, aged thirty-seven) who had tension headache, had no relief from in-

halation of ergotamine tartrate, and complained of moderate nausea. There were no other side actions and toxic reactions were not seen.

Discussion

The efficiency of this route of administration closely parallels that of injection. The Medihaier® is small and compact, can readily be carried in the pocket, and is always available for immediate use. This is highly important, since the desirability of aborting attacks before cephalic dilation becomes fixed is well recognized. Use of suppositories, or injections, required for nausea, demands privacy, not needed for inhalation therapy. Precautions for sterility and hazards of breakage are obviated. Oral inhalation may be used anywhere. Nausea and vomiting, which frequently accompany attacks of migraine, and makes use of oral or sublingual administration impractical, do not interfere with the use of inhalation therapy. The effectiveness of oral inhalation therapy of ergotamine tartrate is due to the rapidity of the absorption of ergotamine tartrate through the highly vascularized epithelia of the respiratory tract, and avoidance of interference with action of the drug by the digestive tract or the liver.

Finally, the accurate metering of the dose of ergotamine tartrate delivered by the Medihaier guards against overdosage.

We have found the speed of relief obtained with oral inhalation to approximate that obtained with injection. It is much more rapid than that seen with sublingual or oral therapy, and significantly more dependable than either oral or sublingual therapy.

It is psychologically reassuring to the patient to carry the Medihaier on his person, just as in the case of the asthmatic.

Side actions have not been a problem with oral inhalation therapy. We have not seen any evidence of respiratory tract irritation or of ergotism.

Conclusions

1. Oral inhalation is a convenient and effective route for delivery of ergotamine tartrate for recurrent and throbbing headaches, migraine, and Horton's histaminic cephalgia.
2. A new preparation, Medihaler®-Ergotamine permits use of this route, and provides a means for starting treatment early in the attack, a highly desirable objective.
3. Results obtained from the inhalation of ergotamine tartrate in this series of patients have been significantly better than the results obtained with oral therapy, and virtually as good as those obtained by injections, without the inconveniences imposed by the latter route.

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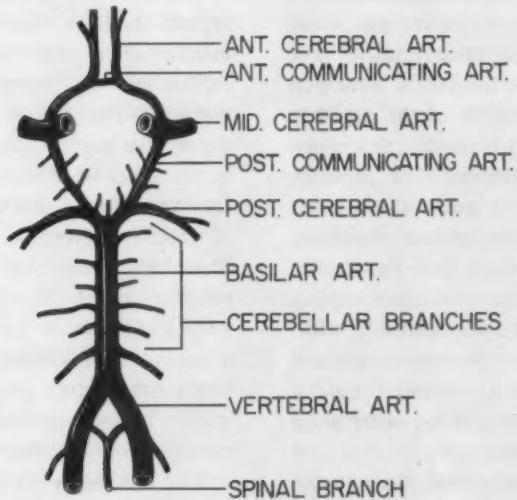


Diagram of Arteries at Base of Brain

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Thyroid Nodules and Cancer

Interest in carcinoma of the thyroid has increased in recent years. This appears to have resulted from (1) an increase in the number of patients for whom this diagnosis is made and (2) controversial issues which have stimulated discussion.

It is difficult to definitely establish the reasons for the increased recognition of thyroid carcinoma. The two most important factors appear to be (1) earlier establishment of the diagnosis in a greater number of patients as a result of the removal of a greater percentage of thyroid nodules and (2) an apparent true increase in the incidence of the disease, noted by a number of large institutions.^{1,2} The increase in thyroid cancer has for the most part been an increased recognition of the papillary and follicular varieties. It is possible that many patients in whom the diagnosis of papillary and follicular carcinoma is made would never develop a spread of the malignancy elsewhere, so that the lesion would be of little significance to them. Whether this is true, and whether criteria can be established to uniformly select significant lesions, remains for experience and time to determine. Thus, repeated careful appraisals of the disease and an open mind will be required in the future.

Controversial issues concerning carcinoma of the thyroid especially include: (1) which nodules should be treated surgically; and, (2) how extensive should surgery be for established carcinoma, especially with respect to neck dissection.

Much confusion exists concerning the evaluation of thyroid nodules. Experience and

an appraisal of the physical features of the nodule and the thyroid gland containing the nodule, correlated with the age and certain general considerations regarding the patient, can permit some selectivity in treatment. However, during the last decade, evaluation of results, pathologic features and considerations of the natural history of this carcinoma has resulted in an increasingly more radical surgical approach to the established disease.

Management of Thyroid Nodules

The incidence of carcinoma in patients with thyroid nodules showing no other obvious manifestations of thyroid malignancy has been established as being approximately four percent.³ The higher figures up to around twenty-five percent, reported by some authors in the past, were based on the frequency of carcinoma found at surgery in patients, many of whom had probable or suspected carcinoma. Therefore, these high figures are based on selected groups. This latter figure is of little value and should be forgotten when considering a patient with isolated thyroid nodules. The four percent figure is based on careful clinical studies of large numbers of patients and on careful autopsy studies.⁴⁻⁶

The low figure of four percent obviously permits variations in philosophy of therapy to play an important role in the management of thyroid nodules by individual physicians. The hesitancy of many physicians to advise surgery

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... Important Considerations in Surgical Management

for thyroid nodules is increased by the knowledge that even if the nodule is malignant, most such nodules are of low grade malignancy which may never endanger the life of the patient. On the other hand, at present there are no reliable criteria to always determine which nodules are dangerous, and the mortality and morbidity of surgery for thyroid nodules is very low. Thus, it is likely that the issue as to which thyroid nodules should be removed and when, will remain perennially a controversial one.

Experience to date has shown that certain groups of patients are more likely to harbor malignancy in thyroid nodules. Thus, a certain degree of intelligent selectivity can be applied in the management of thyroid nodules.⁷ These groups include:

I. HIGHLY SUSPICIOUS NODULES

1. Nodules in patients twenty-years-of-age or less.
2. Nodules which appear on palpation to invade adjacent muscle or other structures.
3. Large very hard nodules.
4. Thyroid nodules with associated cervical lymphadenopathy.

II. RELATIVELY SUSPICIOUS NODULES

1. Discrete nodules (remainder of thyroid normal on examination).
2. Nodules in male patients.
3. Nodules in patients under the age of forty-five years.
4. Predominant nodules in multinodular thyroid glands.
5. Enlarging nodules.

Surgery should be carried out for those patients who are otherwise in a reasonable state of health. Studies have shown that a high percentage of the younger age group of patients with carcinoma of the thyroid received radiation therapy to the neck area in infancy.⁸ Thyroid nodules in individuals twenty-years-of-age or younger should be considered malignant until proven otherwise after surgical removal.

There are several groups of patients with thyroid irregularities which do not appear to require surgery. It is possible for the examining fingers to become excessively sensitive and to become alarmed about palpable lobulations of the thyroid gland. These are not nodules and surgery, of course, is not indicated on this basis alone. Discrete nodules are considered to be nodules with well delineated margins felt to project from thyroid tissue which otherwise does not feel abnormal.

Another group of patients in which surgery may be unnecessary because of the possible presence of malignancy are patients who have acute, subacute, or chronic thyroiditis. The presence of carcinoma has been sufficiently low in these glands, in our experience, that we do not believe surgery is justified. To remove all abnormal thyroid tissue in this disease state requires total or near total thyroidectomy which, in the thyroid, is often technically difficult and entails an increased risk of complications, such as injury to the recurrent laryngeal nerves and hypoparathyroidism. Thyroiditis can be recognized with a high degree of accuracy by careful attention to a history of sore throats related to thyroid tenderness and the finding of a diffusely enlarged thyroid which is uniformly firm. Lymphoepithelial goiter often is nodular and may contain a malignant growth. Such nodules are managed on the basis of a consideration of the features of the nodule or nodules present.

Diffusely enlarged, irregular thyroid glands are less likely to contain a malignant tumor than multinodular glands also containing one or more discrete dominant nodules.⁹ Surgery is advised for patients with the latter type of gland.

The scintigram is of limited use in the selection of patients for surgery for thyroid surgery.⁹ The majority of nodules are "cold" or indeterminate in the scintigram whether benign or malignant. However, a few do show increased uptake which usually indicates that surgery is unnecessary.

Administration of thyroid has been advocated in the treatment of thyroid nodules.¹⁰ This therapy will occasionally result in a decrease in size of the nodule and its ultimate disappearance but, at least three months of continuous therapy with large doses are usually required. It would seem usually successful for those patients in whom a nodular thyroid gland is considered benign for other reasons, i.e., thyroiditis. Therefore, this method of differentiation of thyroid nodules also appears to be of limited value.

In considering thyroid nodules, it should be recalled that present evidence indicates that malignant lesions of the thyroid originate as malignant lesions and do not arise in previously benign nodules or adenomas.¹¹ Therapy is directed for the lesion presented at the time. It is also to be remembered that there is no reliable gross feature that will uniformly impart to the examining fingers the microscopic nature and expected biological behavior of the nodule. Nodules may be calcified and may have been present for many years and yet are malignant.

That thyroid surgery is not a terrible experience for the patient, that it carries an extremely low mortality and morbidity rate must also be appreciated. Therefore, a discrete nodule in an otherwise healthy individual should usually be treated surgically.

In a significant number of patients with thyroid carcinoma, metastases occur from an occult primary lesion. Patients with abnormal palpable lymph nodes in the middle jugular group or posterior triangle of the neck should be suspected of having carcinoma of the thyroid even though a nodule may not be felt in the gland. One of the abnormal nodes should be removed and proper treatment carried out after microscopic examination.

Surgery for Thyroid Nodules

It is well established that lobectomy is the proper surgical procedure for a thyroid nodule. Anything less than this is an inadequate surgical approach to most lesions suspected of being malignant. Early experience showed that excision of a nodule alone was followed by local recurrence and at times, death from local recurrence, if the nodule was malignant.¹² Recurrence usually resulted from incomplete removal of the primary malignancy and, perhaps in some instances, from residual intrathyroid metastasis of multicentric carcinoma. In performing a lobectomy, the recurrent laryngeal nerve is preserved, unless, of course, it is obviously involved by malignancy. Lymph nodes around the lobe are removed. The isthmus and the superficial portion of the contralateral lobe are usually removed also.

If both thyroid lobes contain nodules, total lobectomy is carried out on the side which contains the most suspicious nodule or which is replaced by nodules. Then a partial lobectomy is carried out on the opposite lobe, carrying out as wide an excision as is consistent with adequate removal of the nodule. Parathyroid glands are identified and preserved at least on one side.

A nodule located in the isthmus is treated by complete excision of the isthmus and the superficial portion of each lobe. Lymph nodes in the vicinity of the isthmus are also removed.

Surgery for Thyroid Carcinoma

Complete removal of the primary lesion is the most important principle of surgery for thyroid carcinoma. Death from thyroid carcinoma is usually the result of the local effects of the primary lesion on neck structures (trachea, esophagus, blood vessels) or from distant metastasis. Complete removal of the primary lesion is the most effective approach in preventing these disastrous manifestations. The wide removal of nodules as emphasized above, is obviously necessary.

The desirability of more extensive surgery than already described is under current evaluation and is controversial. There is no doubt

that each patient should be treated individually, performing whatever procedure is required to remove malignancy present in the neck. Obvious gross extent of the disease, therefore, is the most important factor determining the extent of surgery.

Information is accumulating which shows a significant occurrence of multicentricity of papillary and follicular carcinoma.¹⁸⁻¹⁵ In our experience, this feature occurred in thirteen percent of patients operated for cure of thyroid carcinoma and in twenty-four percent of patients for whom a total or near total thyroidectomy was done. Therefore, we now carry out a total thyroidectomy in most patients who have thyroid carcinoma. The parathyroid glands should be preserved on at least one side, i.e., the side least involved. In only a few patients is bilateral carcinoma so extensive that sacrifice of the parathyroids is necessary. If the parathyroid glands cannot be identified, a remnant of thyroid tissue should be left in the normal location of the parathyroid glands to protect them. Excessive surgery does not appear justifiable for a malignancy usually not fatal.

The diagnosis of thyroid carcinoma by frozen section study at the time of surgery is of real help for it is much easier for the patient and the surgeon to carry out all necessary surgery at that time. If the diagnosis is established later, it may be advisable to carry out a second operation to ensure complete eradication of all malignant tissue. Completion of a total thyroidectomy or a lateral neck dissection as a second operation may be advisable.

Thyroid carcinoma tends to spread to the lateral cervical nodes, especially those in the middle and lower jugular groups and in the posterior triangle of the neck. It is not unusual for a palpable node containing metastasis to be the first indication of thyroid carcinoma; the primary lesion in the thyroid gland may not even be palpable. Such nodes should be removed; the extent of neck dissection advisable is controversial.

If the cervical lymph nodes are palpably enlarged in a patient with thyroid carcinoma,

they nearly always contain metastasis (over ninety percent).¹⁶ We prefer to do a neck dissection because the removal of only a few palpable nodes or a group of nodes is followed too often by enlargement of other nodes requiring removal. If cervical metastases are extensive, we perform a classical radical neck dissection. Otherwise, we usually carry out a modified neck dissection which is identical to the classical procedure, except for the preservation of the sternocleidomastoid muscle and the submaxillary gland area and the necessity for a less disfiguring incision.¹⁷

The papillary type of thyroid carcinoma is the most frequent histologic variety occurring now. Metastases from this variety go primarily only to cervical nodes. Its natural history is such that patients usually live many years even with numerous cervical node metastases. This has led many surgeons to be very conservative in the treatment of this type; it does usually permit passage of considerable lengths of time for evaluation and repeated surgery, if necessary.¹⁸ This makes removal of only palpable cervical nodes an approach permitting preservation of life from the disease in practically all patients who have this type of thyroid carcinoma. We prefer, however, the more complete removal of cervical nodes (radical or modified neck dissection) in such patients as a single early, more complete approach in management of carcinoma. It is possible it may be significantly more effective in a few patients. There are a few patients who have papillary thyroid carcinoma in which the disease is more malignant and can result in death from distant metastases, even though many years are required and the patient passes into the older age groups. Only experience with greater numbers of patients over many years will better answer such controversial issues.

The question of performing neck dissections for patients without palpable cervical lymphadenopathy is even more controversial. In our experience, at least about one-third of such patients do have metastases to the nodes irrespective of the histologic variety.^{16,17}

Whether or not any patients are helped by removal of such nodes before they are clinically manifest is unknown. Evidence indicates that it must be rare for any patient to be lost, if a neck dissection is not done in such instances, until cervical node metastases are obvious.¹⁸ We do prefer more radical surgery in early stages of malignancy and do perform modified neck dissections for many of these patients, especially for a large primary malignancy verified by frozen section study at the time of surgery.

Neck dissections require meticulous dissection to provide optimal benefit.¹⁹ It is true that

even this operation is limited for certain vital structures in the neck area are preserved. However, meticulous dissection does result in what usually appears to be adequate removal of cervical node metastases in this disease. It includes removal of nodes in the superior anterior mediastinum through the neck incision.

Undifferentiated carcinoma of the thyroid is a rapidly progressive disease and apparently can become locally inoperable in a few weeks. Earlier recognition and treatment of this form of malignancy are required to improve results. Treatment in earlier stages can provide cure for even this more malignant variety.

Conclusions

1. Papillary and follicular carcinoma of the thyroid have been recognized more frequently in recent years.

2. About four percent of patients with thyroid nodules with no other evidence of disease have thyroid carcinoma. Thus, it is anticipated that a certain amount of controversy will persist regarding removal of such thyroid nodules.

Individual disciplines will be factors in the approach to management.

3. Selectivity can be exercised to some extent in selection of patients for surgery for thyroid nodules.

4. Surgery for thyroid nodules usually requires total lobectomy.

5. Complete removal of the primary lesion is the most important requisite in surgery for thyroid carcinoma.

6. Total (or near total) thyroidectomy appears to be advisable for a majority of patients who have thyroid carcinoma.

7. Palpable cervical lymphadenopathy usu-

ally indicates the presence of metastases which should be removed; we prefer a radical or modified neck dissection.

8. About one-third of patients who have thyroid carcinoma, without palpable cervical lymphadenopathy, do have metastases in cervical nodes. Whether immediate cervical node dissection is preferable to a dissection only after nodes are clinically evident, has not been determined.

9. The papillary variety of thyroid carcinoma tends to metastasize to cervical nodes permitting delayed and limited surgery. Nevertheless, early adequate removal of the primary lesion is necessary; the advantages of early or radical lateral neck surgery are not yet apparent for most of these patients. We prefer to carry out neck dissections as outlined above.

10. Alertness in the early detection and adequate treatment of thyroid carcinoma can be improved and should result in even better therapeutic results in this disease.

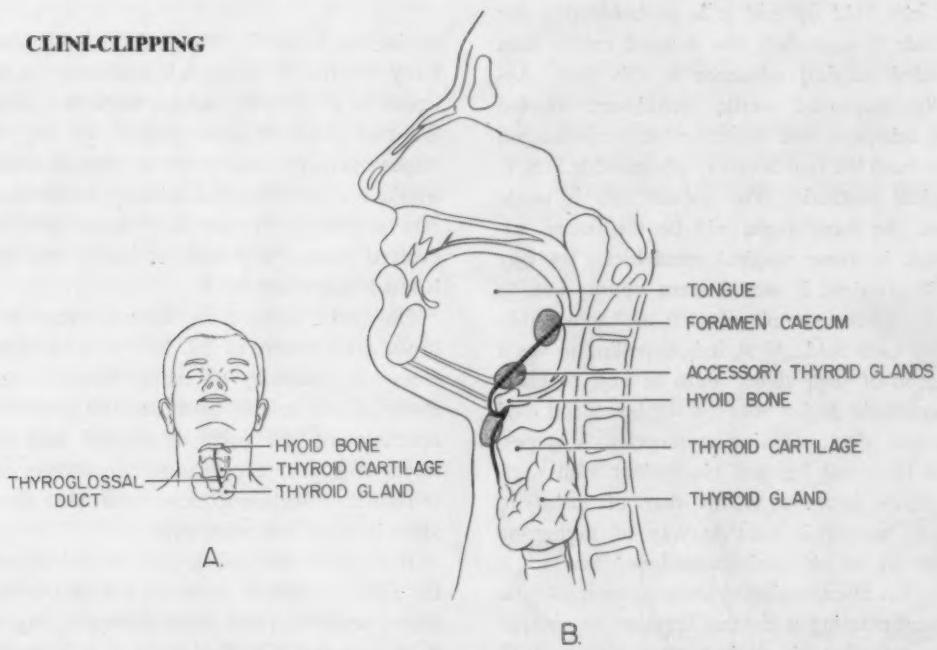
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CLINI-CLIPPING



EMBRYOLOGY OF THE THYROID GLAND

- A. Course of the Thyroglossal Duct.
- B. Lateral view of the Thyroglossal Duct showing other possible locations of the Accessory Thyroid Glands.

Antibiotic | Therapy in Surgery

*An Evaluation of Antibacterials in Relation
to Elective Ophthalmic-Otolaryngic Surgery*

It is frequently said these days, in medical circles, that the recent advances in the surgery of the eyes, ears, nose and throat could not have taken place except for antibiotics. On close examination, this aphorism will not hold up and it is probable that the attitude it engenders has delayed rather than speeded surgical advances in this field. Actually, improved sterile techniques coupled with adequate and maneuverable magnification have been the real boons to advanced E.E.N.T. surgical methods. The sooner this is made clear, the more rapid will be the future advances in these surgical specialties. By way of illustration, it would seem appropriate to point out an example of such mistaken thinking in each field. First, it is appalling to see a surgeon of such ability as to be able to place a prosthetic device between the incus and oval window, after removing an otosclerotic stapes, then turn and blanket his patient with antibacterials because of his fear of infection, which, simply is another way of saying he is unsure of his sterile technique. Second, it is no less discouraging to see a surgeon capable of transplanting a corneal segment to another eye protecting his patient after surgery with antibiotics because he failed to do an adequate surgical scrub and refused to don gloves. It is likely that the use of the antibiotic in either such case is entirely unnecessary if adequate

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sterile technique is observed. In all probability, the risk of using such medication at least equals or exceeds the danger suspected. These are two common occurrences. To say that stapes surgery and corneal transplantation would not have evolved without antibiotics is rare stupidity. To say they could not have evolved successfully without sterile technique is much nearer the truth.

Obliquely, perhaps, antibacterials have aided in the development of E.E.N.T. surgery. Freed from the necessity of doing frequent acute mastoids and treating trachoma and gonococcal ophthalmias, the ophthalmological and otolaryngological surgeon naturally had more time to turn his attention to newer and more daring ideas in each respective field.

It might be worthwhile to stop and consider the risks incumbent upon the use of the commoner antibiotics and chemotherapeutic agents, so as to better view this problem in a sensible fashion. Altemeier et al, divide untoward reactions caused by antibiotics into three groups (1) Sensitivity reactions (2) Toxic reactions related to amount of drug given and

(3) Secondary inflammations due to superimposed infections. First and severest is the anaphylactic-like reaction resulting in sudden death in a large number of the patients so affected. Possibly this is most often related to penicillin injections. So often has this been reported that many competent authorities suggest that penicillin should never be given to a patient with a previous history of allergy such as hayfever, asthma or atopic eczema, except as a life-saving procedure and then only after careful skin testing and in graduated doses. Add to this the contraindication of any active fungus infection and the number of patients to whom penicillin is even normally applicable is relatively small to begin with. Sulfa drugs have long been viewed with considerable concern because of kidney complications and more often because of violent generalized skin reactions and agranulocytosis. (How quickly we have forgotten our concern over agranulocytosis of sulfonamide origin in our effort to transplant this concern to Chloramycetin and aplastic anemia.) To all the above, we must add the superinfections with resistant organisms and secondary Monilial invasions found after oral ingestion of many of the antibiotics in common use especially in the penicillin and "mycin-derived" groups. Probably one of the most serious results from a persistent disability standpoint is related to dihydrostreptomycin with a non-reversible hearing loss, or a labyrinthine dysfunction from streptomycin. Indeed, the frequency with which we see labyrinthitis today as opposed to ten or fifteen years ago suggests a directly causal effect with the use of streptomycin.

Of course, if the only use of these drugs was to save lives in serious illness, then the risks are nothing compared to the desired result. But, if we are to use these medicines in a prophylactic manner in elective surgery we must wisely and well weigh their dangers against what we hope to accomplish. We must actually know what we can hope to prevent by their use. We do have certain prominent guideposts to help us decide. The prophylactic use of sulfonamides or penicillin in rheumatic

fever patients is well established in preventing recurrence and in relation to surgery on these patients. This use has been extended to include any acute streptococcal infection with good result. Gonococcal infection of the eye of the newborn may be prevented with penicillin (but also with silver nitrate). It may be possible to prevent meningococcal meningitis and bacillary dysentery with sulfonamide therapy. Certain of the "mycin" group alone or in combination with sulfonamides may help render the alimentary canal less infected so as to aid in surgery. Farther than the above statements we probably cannot go at the present time as far as prophylaxis with these agents are concerned. Altemeier et al. lists eight possible prophylactic uses of antibiotics in surgery.

1. Elective surgery through contaminated area e.g., G.I., Respiratory or G.U. tracts.
2. Contaminated wounds of violence.
3. Patients with indwelling catheters.
4. Surgery with derangements of urinary tract.
5. Emergency surgery in presence of unrelated infection.
6. Operations of oral and pharyngeal areas.
7. Preexisting valvular heart disease.
8. Tuberculous infections of surgical nature.



However, many of these uses are not really prophylactic but actually treatment of an almost certainly infected wound.

Consequently, if we attempt to use the antimicrobial agents for prophylaxis, we should have some ideas as to whether or not we really have any appreciable chance for success. As Weinstein has so ably put it. "It is striking that the clinical areas in which prophylaxis has been applied most widely are those in which its use has been based mainly on clinical impression rather than on fact derived from careful study." Since we are concerned here primarily with surgery, it need only be mentioned that Weinstein pointed out in chicken pox, mumps, varicella, pertussis and infectious mononucleosis that the prophylactic use of antimicrobial agents not only was without benefit but that in the case of respiratory poliomyelitis might actually increase the susceptibility to pneumonia. Petersdorf and Merchant (in a double-blind series) maintain that the use of these agents was not effective in preventing pneumonia in acute heart failure. Equally forebidding seems to be the surgical picture, however, as Tachdjian and Compere in a review of 3,000 orthopedic operations emphasize that the indiscriminate use of antibiotics during the past ten years has resulted in strains of highly resistant bacteria and found that over twice as many of the patients treated with antibiotics prophylactically developed infections as compared to the untreated cases. They stress careful handling of tissue and strict aseptic technique as necessary to avoiding infection. Sanchez-Ubeda found no effect in the prevalence of infections as complications when penicillin and streptomycin was used preoperatively. Investigating fifteen hundred and thirty-six consecutive herniorrhaphy operations in twenty-four community hospitals located in seven states, Myers found that three times as many infections developed in the patients treated prophylactically with antibacterials as in the patients not so treated. This is one of the most obvious condemnations of the needless use of these drugs in this manner.

McKittrick and Wheelock studied the use of

antibiotics in elective abdominal surgery and concluded that they could not demonstrate benefits to compensate for the cost and dangers associated with the prophylactic use of antibiotics in elective G.I. and biliary surgery. Appleton and Waisbreu in their series could find no evidence to justify prophylactic use of antibiotics in transurethral resection. Foster et al in discussing antibiotics in surgery emphasize that "antibiotic therapy aids but does not supplant established surgical practices in the management of infection." How well does this follow the statement made earlier by Leland S. McKittrick that " - - - there is neither need nor justification for the surgeon routinely to divide the responsibility for an intestinal anastomosis between his surgical skill and the antibiotics."

It seems to me that all too often the antimicrobial agents are indiscriminately used to prevent bother to the physician. If the question of postoperative infection arises the attitude is to start by administering an antibiotic rather than by wound inspection and examination for other intercurrent infection or cause for fever. Many times consultation has been sought concerning a throat which would not heal on antibiotics and the patient found to have mononucleosis or an ear which failed to subside on antibiotics which showed a typical viral myringitis bullosa or an eye that stayed red after use of antibiotics which had an obvious allergic reaction. Similarly, in the operative case we must search diligently for concomitant or unrelated infections which lead us to withhold rather than apply the antibiotics. The more we return to a careful clinical analysis of the so-called postoperative infection the more we find factors not in direct relation to the surgery and the less we apply the antibiotic crutch.

For the past year, it has been our practice to never use the antimicrobial agents as a prophylactic shield in surgery. This took considerable thought when most of our surgical colleagues accept such usage as routine. On the first few major cases we must confess we slept poorly, although the patients slept soundly

(not being awakened for shots or pills). As the first month or two went by it became more and more obvious that the patients were doing very well indeed and their hospital drug bills were lower. Now some 106 operative cases later we know that we would not go back to the use of antimicrobials agents as a surgical crutch unless some new and drastic changes are brought to light. Not a single instance of postoperative infection occurred during the past year, no drug reactions were encountered and no surgical failures attributable to the lack of use of antibiotics were encountered.

We must face up to our responsibilities to patients and refuse to use these life-saving medications until clear cut indications are present. Only in that way can we hope to maintain the necessary effective action in severe infections and reduce the patient's health bills to a necessary minimum. It has been pointed out that for the first time this year, the nation's drug bill exceeded that of the physician's fees. As physicians, we must not condemn the drug firms or pharmacies but must firmly face the fact that this situation is far more due to irresponsible prescribing by the physician than the cost of medicines. Of course, we want the manufacturers and retailers to help keep cost down, as we are sure most firms are trying to do, but we can help immensely to cut drug bills by prescribing only necessary medicine and only with careful consideration.

Another less obvious point which seems worthy of mention is the altogether too fre-

quent use by the oculist of an antimicrobial agent in the eye which is either not needed or might be supplanted by another drug not generally used for systemic administration. In the first instance, we may increase the incidence of monilia or other yeast or fungus infections and in the latter case, the patient might be denied the use of a lifesaving drug because of sensitization due to the eye application. The use of such drugs as neomycin, bacitracin, sulfacetamide and polymyxin, not generally used systemically, can solve the latter problem and still cover the bacterial spectrum well, but only careful diagnosis and reserve on the part of the physician can correct the needless application of these medicines. Similarly, it behooves the otologist not to immediately prescribe an antibiotic for a red ear since a mild acute otitis media is a self-limited process not needing such drastic steps and an acute secretory otitis media certainly needs no antibiotic. Perhaps because of the acute pain, a myringitis bullosa almost always is dosed with antibiotics and yet as far as we know it is likely viral in origin and self-limited also. There is almost no need to even mention the common cold in this respect except to deplore the use of antibiotics in such instances. Probably no one sees more of the Monilial type involvement of the mucous membrane of the mouth and throat than the otolaryngologist and the history he often gets is that the patient has just finished a round of antibiotics for a "cold."

Conclusion

To try to visualize all the ramifications of the relations of the antimicrobial agents to eye and ear problems staggers the imagination. For fear it may be assumed that we feel these agents detrimental, we would hasten to point out that it is not the drugs which are to blame but the use of them with something less than all the acumen we can bring to bear on a given problem. We do not wish to delay the use of

the antibacterial once a definite indication of infection is present but we must avoid needless, so-called prophylactic, application of these agents.

Our plea is for the most careful clinical analysis and judgment before loosing the dramatic, lifesaving effects of these agents. Less than this we cannot possibly do in respect to our patient and our profession.

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PROGNOSIS IN METASTATIC TUMORS OF THE BRAIN AND THE SKULL

"Patients with metastatic brain tumors of pulmonary origin have an expected life span of approximately 3 months after the appearance of cranial symptoms. Operative intervention is not likely to extend this period except in an occasional fortunate patient.

In breast tumors metastatic to brain the survival period varies from 4.5 to 8.2 months with and without operation respectively. Because of the availability of hormonal and chemical therapy as well as irradiation to induce effective remissions in cerebral metastases, direct operative attack upon these metastatic tumors is rarely indicated and the results are not better than are those with nonoperative therapy.

In the group of less commonly seen metastatic brain tumors, such as hypernephroma, thyroid carcinoma, and teratocarcinoma of the testes, postoperative survival of several years' duration (ordinarily beyond 3 years) has been reported. The longest operative survivals are obtained in patients with single large tumors located in the nondominant hemisphere of the brain.

On the basis of these observations, it appears that radical operative treatment in metastatic brain tumors of the lung and breast and in malignant melanoma fails to show any advantage over nonoperative treatment."

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A Clinical Evaluation of Sulfadimethoxine

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In recent years, the treatment of common respiratory, gastrointestinal and urinary tract infections have presented a problem because of antibiotic-resistant organisms. It has, therefore, been suggested that a possible solution to this problem and that of the development of an allergy to antibiotics might be afforded by the use of sulfonamides for mild infections and to reserve the antibiotics for more serious infections and therapeutic failures.^{1,2,3} One of the primary reasons for the more widespread usage of sulfonamides is the decline in the incidence of toxic reactions as a result of the availability of newer derivatives largely replacing the earlier compounds.⁴ In 1955, Yow¹ reported that over a two-year period, more patients had sufficiently severe drug reactions to require hospitalization following penicillin therapy than following sulfonamide administration.

Sulfadimethoxine, a recently developed sulfonamide, not only possesses the above-mentioned advantages of this class of drugs, but has the characteristic of sustained therapeutic blood levels for protracted periods.⁵ Clinical experience with sulfadimethoxine has shown this compound to be unusually well-tolerated. Side effects are infrequent and generally of a mild, transient nature. No serious toxic reactions have been reported in the literature. Its unique metabolism and mode of excretion,

i.e., as a glucuronide,⁶ (more soluble than the parent compound) may make this compound less toxic.⁷ The present communication reports on the clinical experience with Madribon®* in general practice.

Materials and Methods

A group of forty-six patients (thirty female and sixteen male) with a variety of acute infections predominantly of the nasopharynx and tonsils were treated with Madribon. In addition to the respiratory infections, there was one patient who had boils which had not responded to vigorous long-term antibiotic therapy, and one patient, each having cervical lymph node swelling and abscess and four instances of cellulitis (two in association with paronychia and one with boils). The patients who ranged in age from thirteen to seventy-nine years of age were seen in private practice. Laboratory procedures included white blood cell count, hemoglobin, and urinalysis. Throat cultures were taken whenever possible at the onset of therapy in patients who had not previously received antibiotic therapy, and these cultures were again repeated after one week of sulfadimethoxine therapy. The majority of patients were administered two half-gram tablets (1.0

* Trademark for sulfadimethoxine, Hoffmann-La Roche Inc., Nutley, New Jersey.

gm.) initially and one tablet every twelve hours thereafter. The patients having cellulitis received three tablets daily. The duration of therapy varied from three days to twenty-one days with an average of six days. In one patient who was given therapy for twenty-one days, the cultures showed pure staphylococci and although the patient was symptom-free by the end of one week, it was decided to continue therapy for two more weeks. Another patient was kept on sulfadimethoxine for an extra seven days because of the presence of streptococcal infection in three members of the family.

Results

The results, along with the breakdown of the diagnostic categories treated, are shown in Table I. As can be seen, all patients responded satisfactorily to therapy; twenty-nine exhibited an excellent response and seventeen showed improvement. The majority of patients responded within five to seven days. No side effects were noted in any of the patients treated.

Several observations made in the course of this investigation are worthy of special mention. Three patients with rheumatic heart disease were treated for respiratory infections which had occurred while on prophylaxis with penicillin. One patient responded so well that she was taken off penicillin and placed on one tablet of sulfadimethoxine daily for prophylaxis of the rheumatic fever. The other two patients also responded dramatically to the sulfonamide. In a patient with diffuse bronchitis and sinusitis who had responded very slowly to penicillin during a previous episode, treatment with two tablets of Madribon daily for three days and in combination with 600,000 units of procaine penicillin for an additional three days resulted in rapid improvement. X-ray in one patient revealed unresolved pneumonitis which had been treated for twenty-one days. Because of sensitivity to penicillin and aureomycin, the patient was placed on sulfadimethoxine, three tablets daily for six days. X-ray taken on eighth day after

medication showed complete clearing of the area of infiltration. One patient with pharyngotracheitis with laryngitis, resistant to tetracycline and Chloromycetin showed objective and subjective evidence of improvement after the fourth day of Madribon therapy. The necessity for individualizing dosage is perhaps best illustrated by a patient having an infected throat, otitis media, and sinusitis who showed no apparent improvement on a daily dose of one tablet for ten days. Increasing the dose to one tablet t.i.d. brought relief within four days. Best results, in this series, were obtained on a dosage schedule of two tablets stat and one t.i.d.

Comments

The most impressive part of the study was the *complete absence of any side reaction*. This observation was confirmed in an additional group of thirty-nine patients subsequently treated with sulfadimethoxine. In not one single instance was a side effect reported, nor were there any allergic manifestations such as rash, pruritus or urticaria. Although the drug was not prescribed in patients with a previous sulfonamide sensitivity, it is nevertheless significant that there was not a single untoward reaction. Furthermore, the results based on clinical observation were most gratifying and compared favorably with those of any antibiotic used.

Because of its effectiveness and safety, Madribon should prove especially valuable in 1) infections of the respiratory tract of non-viral origin; 2) infections that have failed to respond to antibiotics; and 3) patients having a known sensitivity to antibiotics.

In the more severe infections, the dose may be safely increased to as much as two tablets t.i.d.

In addition, the remarkable results observed in the patients with rheumatic heart disease suggest that sulfadimethoxine as a prophylactic agent in such conditions should be investigated further. Maintenance of adequate blood levels for prolonged periods will permit once-a-day administration.

TABLE 1 RESULTS OBTAINED WITH SULFADIMETHOXINE

INDICATIONS	NO. PATIENTS	ORGANISMS CULTURED (from)	RESULTS	
			Excellent	Improved
INFECTED THROAT + cervical lymph node swelling (1)	11	Beta hemolytic strep. Strep. viridans Hemolytic Staph. aureus M. tetragina pneumococci	9	2
PHARYNGITIS follicular (5) + rheumatic heart disease (1) nasal (3) acute (1)	11	Staph. aureus N. catarrhalis*	8	3
STREP. VIRIDANS		Strep. viridans*		
BRONCHITIS diffuse (2) viral (1) asthmatic (2) + pneumonitis (1) + rheumatic heart disease (1) + URI (1) + sore throat (1)	10	Hemolytic Staph. albus Staph. aureus yeast E. coli M. tetragina	2	8
OTITIS MEDIA AND SINUSITIS + infected throat (1)	2	Hemolytic Staph. aureus yeast	1	1
SINUSITIS	2	Staph. albus* diphtheroids*	1	1
CELLULITIS + paronychia (2) + boils (1)	4	Staph. aureus	3	1
PURULENT ETHMOIDITIS	1	Strep. viridans Staph. aureus	1	
UNRESOLVED PNEUMONITIS	1	negative		1
ABSCESS	1		1	
URI + RHEUMATIC HEART DISEASE	1		1	
BOILS	1		1	
TONSILLITIS	1	N. catarrhalis Strep. viridans B. aerogenes	1	
TOTALS:	46		29	17

* While N. catarrhalis and Strep. viridans are not necessarily implicated in pharyngitis, Staph. aureus has proved to be troublesome, and Staph. albus and diphtheroids cultured in the two cases of sinusitis may possibly have been secondary invaders.

Summary

Madribon,® a broad-spectrum antibacterial sulfonamide, produced improvement in all forty-six of a series of patients treated for a variety of acute infections predominantly of the respiratory tract. Twenty-nine patients showed an excellent response and seventeen considerable improvement. The results compared favorably with those of any antibiotics used.

The most impressive observation was the

complete absence of any side effect in this group and in an additional thirty-nine patients subsequently treated.

In view of its effectiveness and exceptional safety, it is suggested that sulfadimethoxine be considered as a first choice antibacterial in antibiotic-resistant infections and in patients with antibiotic allergenicity. Its use as a prophylactic agent in rheumatic heart disease is also discussed.

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"OFF THE RECORD . . . "

Share a light moment or two with readers who have contributed stories of humorous or unusual happenings in their practice. PAGES 25a and 29a.

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Pigmented Tumors of the Skin

Pigmented lesions may range from the innocuous and sometimes desired "beauty mark" on the face to the highly malignant tumor of melanoma. It is becoming common knowledge among laymen that pigmentation in a lesion may connote the possibility of a malignancy. Also, pigmented lesions can be cosmetically objectionable, and the desire for removal of these leads the patient to the physician for advice. For these reasons the family physician, whose dermatologic knowledge may be limited, is frequently consulted. He must decide whether or not the lesion is benign, potentially malignant or malignant. When there is doubt about the diagnosis, the physician should not hesitate to turn to the qualified dermatologist for help. The high mortality rate of melanomas can be reduced only by the prompt and proper action by the physician.

It is the purpose of this communication to enumerate, to describe and to indicate therapy for these pigmented lesions. Pigmented lesions are benign, pre-malignant or malignant. The clinical diagnosis depends upon the morphologic characteristics and the history of the lesions in question.

Benign Pigmented Lesions

● **LENTIGO**—The most common form is the "liver spot" frequently seen on the backs of the hands, the forearms, and the face in middle-aged and old persons. There is no connection with the liver and the removal of these for cosmetic purposes is difficult. Juvenile

lentigenes may be scattered over the body in childhood. No therapy is indicated.

● **DERMATOSIS PAPULOSA NIGRA**—Soft hyperpigmented papules are seen on the lower eyelids, extending to the upper checks, especially on the molar prominences of Negro women. Although these are cosmetically undesirable, the removal of these by any method may produce keloids. Caution is therefore necessary, if removal is attempted.

● **PIGMENTED SEBORRHEIC KERATOSIS**—These greasy superficial, verrucous and frequently-pigmented growths are seen on the face and trunk. The pigmentation may vary from light brown to coal black in color. They may occur by the hundreds, especially on the back, and, they may produce severe pruritus. Removal is by freezing the lesion with ethyl chloride and curetting. Healing without scarring occurs in a week.

● **HISTIOCYTOMA**—This is a firm nodule that occurs chiefly in adults upon the lower extremities. The lesion is deeply imbedded in the skin. The color may vary from brown to almost black, and it is due to deposits of hemosiderin in the skin. The lesions are composed of varying amounts of histiocytes and fibroblasts. There is no indication for removal and these may involute spontaneously in several years.

● **PIGMENTED NEVUS**—The generally benign type is the intradermal nevus commonly known as the hairy mole. This is a smooth or verrucous-elevated, soft lesion with coarse

dark hairs protruding. The color varies from flesh color to coal black. It rarely has junctional activity, namely, nevus cells (melanocytes) at the junction of the epidermis and dermis. For cosmetic purposes, especially on the face, the hairy nevus may be safely removed by epilating with the electrolysis needle. Sometimes this is sufficient to reduce the lesion to the surrounding level of the skin. Any remaining elevation of the lesion is treated further by electrolysis to produce an excellent cosmetic result. The non-elevated, pigmented, hairless nevus is the junction nevus, which will be discussed later. This is not treated in the manner discussed above.

● **MONGOLIAN SPOT**—The typical bluish discoloration in the lower sacral area in the newborn is unmistakable. Rarely, these can occur elsewhere on the body. This usually disappears during childhood.

Premalignant Pigmented Lesions

Some pigmented lesions have the potentiality of becoming malignant. If these lesions are recognized and removed when indicated, successful prophylaxis against malignancy is affected. Although there are many different lesions that may become malignant, the pigmented lesions are of greatest concern since melanoma may develop from some.

● **JUNCTION NEVUS**—This is usually a flat or sometimes slightly elevated smooth-surfaced, hairless pigmented lesion varying in size from one to ten mms. in diameter. The colors may vary from light brown to coal black. It is the type of mole in which there are melanocytes at the junction of the epidermal and dermal layers of the skin. The potential "activity" of these melanocytes at this junction is considered to be the predisposing factor for the development of melanoma. Friction applied to these nevi by rubbing, scratching or pressure may be the mechanism for these nevi becoming malignant. At the present, there is no experimental proof of this. Considering that most everyone has at least several of these junction nevi and that the incidence of melanoma is extremely low, the actual danger of a

junction nevus becoming malignant is little. There is a greater incidence of melanoma in those regions of the body subject to repeated trauma. These include the palms and soles of the lower extremities, the genitalia, the waistline, and brassiere area. For this reason junction nevi occurring at these sites are removed frequently by excision for prophylactic reasons. Others are left alone.

● **LENTIGO MALIGNA**—This is also known as malignant freckle, melanotic freckle of Hutchinson or melanose circonscrite pré-cancéreuse of Dubreuil. The lesion may start as a pinpoint black freckle and grow to several centimeters in diameter. It is usually smooth and somewhat mottled with pigmentation varying from a light brown to coal black. The most frequent site is the cheek, although it may occur anywhere on the body. Mostly women have these lesions, usually on the cheeks or the nose. Lentigo maligna is not malignant and it is not unusual for these lesions to be present for twenty-five years. The smooth surface of the lesion is the most helpful sign of no malignancy being present. However, should the lesion become elevated and warty, it may signify malignant changes. No treatment is necessary for the smooth lesions in elderly people. For cosmetic purposes, these may be covered with an appropriate make-up. The patient should be warned that any warty growth in the pigmented area should be investigated. Electrodesiccation or electrocautery may be used to remove these from the cheeks and other parts of the body. However, on the nose there is a recurrence if these methods are used, since the pigmentation extends down in the sebaceous ducts and regeneration of the epidermis occurs from the pigmented epithelium of these ducts. It is reasonable to expect recurrence of the pigmentation in these instances.

● **BLUE NEVUS**—The typical lesion is a blue nodule two or three millimeters in diameter and slightly elevated from the surrounding level of the skin. It is seen most frequently on the lateral aspect of the instep and on the cheeks, especially of the Orientals. There is histologic

similarity to the Mongolian Spot. The blue nevus is usually benign although malignancies have occurred. These lesions are removed for prophylactic reasons.

● **MALIGNANT PIGMENTED LESIONS** **PIGMENTED BASAL CELL EPITHELIOMA**—The presence of waxy nodules producing a rolled edge border of a pigmented lesion is diagnostic. This serves to differentiate it from the highly malignant melanoma which it simulates. This type of cancer differs from the common basal cell epithelioma only by the presence of pigment which may vary from brown to coal black. Slow growth, sometimes several years, is characteristic. Metastasis does not occur from pigmented epitheliomas. The most frequent site is the face, but, there can be multiple basal cell epitheliomas that are pigmented, especially on the trunks of persons with a history of arsenic ingestion for therapeutic purposes in psoriasis, epilepsy, asthma and hay fever. This arsenic is most frequently in the form of Fowler's solution, which is a pentavalent inorganic arsenic. Since these lesions are superficial, removal by electrodesiccation or excision is easily affected with permanently good results.

● **MELANOMA** — This highly malignant lesion may arise from apparently normal skin, junction nevus, or lentigo maligna. Any pigmented lesion on the skin which is becoming darker, growing in size, bleeding and possibly developing satellite pigmented macules should be regarded as a melanoma unless proven otherwise. The indiscriminate removal of these lesions without an adequate histopathological examination is improper procedure.

The most frequent history given of these lesions is that a dark mole has been present for a number of years and in the recent past bleeding has been caused by trauma. Melanoma may occur on any part of the body; however, those on the lower extremities and genitalia carry the poorest prognosis.

The role of trauma in the induction of melanoma from a junction nevus is still controversial. At the present, this has not been resolved. The prophylactic removal of junction nevi on the palms, soles, waistline, brassiere areas and other areas subject to trauma has been discussed under junction nevi. Biopsy of these lesions for diagnosis is being advocated now more than it was in the past. Histological proof should be had in order to avoid radical removal of lesions simulating melanoma. The possibility of dissemination of the melanoma by biopsy of the lesion is regarded as minimal. Treatment consists of wide and deep excision of the lesion and removal of the regional lymph nodes whenever possible.

Juvenile Melanoma occurring before puberty is not as serious as the adult type. The proper excision of the lesion without regional lymph node removal is usually practiced.

Subungual Melanoma or *Melanotic Whitlow* is frequently diagnosed as a fungus infection of the nail. Subungual hematoma may also simulate this type of melanoma. This type of melanoma develops slowly. Early recognition favors the outcome of these lesions, provided there is prompt surgical treatment. In the early cases especially, amputation of the digit is adequate.

Summary

Today there is a growing awareness of malignancies occurring from pigmented lesions on the skin. Since pigmented lesions, especially moles, are present on most everyone, the general practitioner should be able to diagnose

and evaluate these when doing a physical examination and also when patients consult him specifically for these. These various lesions are described and their management discussed.

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Diagnosis of Chest Pain

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Chest pain is a symptom which requires careful analysis because it may indicate the existence of a life-threatening pathological condition. Besides a careful history and complete physical examination, a work-up for this complaint may include a chest x-ray, an electrocardiogram, gastrointestinal and gall bladder x-rays and such laboratory procedures as a sedimentation rate and serum glutamic oxalacetic transaminase. The pain may arise from the heart, lungs, esophagus, stomach, or gall bladder. It may be organic or functional in nature. Perhaps the most common variety of chest pain arises from the chest wall itself and can be diagnosed merely by palpation and percussion of the chest. It has been given the name of the "somatic chest syndrome."¹

A recent study disclosed that nearly forty percent of five hundred routinely examined men with an average age of fifty-four years had tenderness on palpation and percussion of the chest wall.² In almost every instance, this tenderness resembled pain which had previously occurred in a spontaneous way. The diagnostic maneuver was a simple one. The chest wall was first firmly palpated and then lightly percussed with the finger tips. Then, if necessary, moderate percussion with the clenched fist was used. The tenderness in most of the men was accompanied by such automatic reactions as rapid withdrawal, grimacing, and local muscle spasm. The predominant site was the left an-

terior chest but pain occurred in every thoracic segment and frequently extended over wide areas of the chest wall. In a given individual, the pain was quite consistent in nature. However, from individual to individual, it varied widely. It was sharp, dull, aching, stabbing, or resembled multiple pin-pricks. It occurred as often as several times a day or as infrequently as five or six times a year. It lasted anywhere from thirty seconds to several days at a time.

This type of pain differed in a number of ways from angina pectoris, besides the presence of tenderness. It was not related to effort, food intake or position, nor did it disappear with rest. It was not relieved by nitroglycerine sublingually. Its duration was extremely variable. Pain was usually aggravated by respiration and other movements of the chest wall and shoulder girdle. It frequently recurred for many years in the presence of good general health. The somatic chest syndrome had essentially the same incidence in men with symptomatic coronary artery sclerosis and other abnormalities of the thoracic viscera, as in men

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without these visceral abnormalities. It had no specific relationship to visceral disease.

In the past, somatic chest pain was attributed to compression of cervical and thoracic nerve roots,² irritation of the costochondral junctions,³ and reflex sympathetic dystrophy following myocardial infarction.⁴ None of these etiologies could account for more than a small fraction of the varieties of somatic pain clinically encountered. The commonness of pain in the ligaments, tendons, and muscles of the chest wall would be consistent with the high frequency of sprains, strains, and non-specific aching in the extremities and back. Factors leading to recurrent chest strain were coughing, lying on the chest, and movement of the muscles of the shoulder girdle. The tender chests, also, remained in constant respiratory movement, with inadequate rest for irritated areas. A reason for predominance of the left anterior chest as the site of pain could be repeated impact of the heart. In no case of the

study was swelling of the costochondral joints present.⁵ The absence of hyperventilation and the wide variability in the location of the pain were incompatible with "functional cardiovascular disease."⁶

Men who imagined that they had a cardiac etiology for their pain were most discomfitted by it. The relief which they experienced on learning its non-cardiac nature was striking. Most of the men accepted intermittent discomfort philosophically and did not seek medical aid for it. The importance of the somatic chest syndrome lay chiefly in the diagnostic security which it provided. It reduced markedly the incidence of undiagnosed chest pain and removed a large amount of chest pain from the categories of psychosomatic and visceral disease.

It carried with it positive reassurance that normal patterns of living could be resumed without fear and that usefulness in society was not over.

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HYPNOTHERAPY

in Modern Medicine

At present, we are witnessing a powerful revival of an ancient art—hypnosis. It must be emphasized that hypnosis in modern medicine is not a panacea or cure-all. However, properly administered as an adjunctive procedure, it can become a powerful curative force. It is unfortunate that the medical acceptance of hypnosis has been harmed more by the sensational claims made by its ardent proponents than by its equally ardent opponents.

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data from carefully conducted investigations. Realizing the clinical importance of hypnosis, the American Medical Association recently assayed its use for the therapy of the psychoneuroses, and to potentiate obstetrical chemoanesthesia. It was further considered that hypnosis be taught at postgraduate levels. The A.M.A. Council on Mental Health is now evaluating this problem and will undoubtedly outline methods by which the teaching of hypnosis can be integrated into the medical curriculum.

Despite recent advances and new insights to its therapeutic value, misconceptions still exist about hypnosis. Most physicians believe that the main problem is learning to induce the hypnotic state, which, of course, is readily achieved by any novice. Another misconception is that hypnosis is associated with sleep or unconsciousness, whereas it is actually characterized by a state of hyperacuity. There are many other irrational notions, such as amoral influence on weakminded persons. To many, the word "hypnosis" is still emotionally charged, esoteric and divorced from the "practical" world of reality. Yet, hypnotic phenomena are constantly occurring as part of everyday life; it is often difficult to tell where suggestion ends and hypnosis begins. Although

Voltaire once said that there is often more cure in the doctor's words than in the drugs he prescribes. Hypnosis is merely the scientific use of "words" to make the patient believe in his doctor's ministrations; this faith affects the ability to respond to even medical therapy. Nevertheless, if hypnosis is to be effectively employed as a therapeutic technic by the general practitioner, its limitations and contraindications should be thoroughly understood. Therefore, training and sound clinical judgment are prerequisites for all physician-hypnotherapists.

Twice during the last century, the injudicious use has led to disillusionment. Fortunately, the latest resurgence is in the hands of reputable scientists who are gathering their

we may not always be aware of it, hypnosis is a perfectly natural response, and one which involves the whole field of human behavior, especially, the doctor-patient relationship.

For example, all physicians have observed the beneficial effects of placebo medication. Whether or not they recognize it as such, many employ suggestion and/or hypnosis to potentiate their therapeutic approach. Whenever a stimulus, be it verbal, non-verbal, intraverbal, or extraverbal, is repeated over and over again, it usually produces increased susceptibility to suggestion. Such repetitive conditioning leads to hypnosis which operationally may be defined as a state wherein sensory and motor capacities are altered so as to initiate appropriate behavior. The response to hypnosis is due to a favorable attitude or "mental set" produced by belief, faith, confidence, an expectant attitude—all catalyzed by the imagination.

Those experienced with these technics do not hesitate to utilize the acme of scientifically applied suggestion, namely hypnosis, for the therapy of psychosomatic disorders. Thus, there is no doubt that a physician using antibiotics, immunologic agents, a choice of specific drugs, a good knowledge of differential diagnosis and a profound knowledge of suggestion, can render excellent medical care.

Hypnosis, in one form or another, has been successfully employed by healers since ancient times. It has masqueraded under a multiplicity of labels, such as the "Royal Touch," Divine Healing, etc. Yoga, Zen Buddlium and Christian Science are based on hypnotic technics, and of course, more recently we have had natural childbirth, autogenic training, auto-conditioning, psychoprophylactic relaxation and progressive relaxation, to mention just a few.

By whatever name it is called, however, the fact remains that hypnosis has always been very much with us. Because it is extremely difficult for any individual, in any given era of time, to see through the "smoke screen" of his culture, the *misdirection* which the above mentioned therapies employ is seldom realized.

In psychiatry, this is true even today, as there is a growing awareness that all "schools" of psychotherapy, regardless of methodology, achieve approximately the same results in the treatment of neuroses. Hence, the cures obtained can only be explained on the basis of suggestion or "hypnosis in slow motion." Many psychiatrists are aware that hypnotherapy enhances the interpersonal relationship, facilitates recovery by increasing motivation, and speeds up what is ordinarily a very slow process.

Modern hypnotherapists seldom use the classical or authoritarian hypnotic technics to dramatically remove emotionally based symptoms, as they usually serve some defensive need in the patient's personality structure or emotional household. Therefore, the reasons for the symptoms are discussed under hypnosis until they are self-revealing to the patient. This allows the patient to face problems and also to take an active part in his own recovery. In some cases, it is not necessary for patients to understand the actual mechanisms responsible for their symptoms, but *how they feel about their anxiety-producing situations and how they react to them emotionally is of the utmost importance!*

Hypnosis is a valuable adjunct for the treatment of alcoholism, morphinism, obesity due to overeating, excessive smoking and insomnia. Other symptoms, refractory to routine psychotherapy, such as facial tics and stuttering often respond to hypnotherapy. Symptom-substitution or symptom-transformation (trading down) can be used successfully if the patient is willing to accept a less harmful symptom. For example, through posthypnotic suggestions utilized according to classical Pavlovian conditioning, a tic can be transformed to the twitching of one finger. Once the patient yields his well-established tic reflex, the recently-acquired twitch can be more readily removed, especially, if this is done by suggestions given during autohypnosis; the responsible factors often cannot be elicited. It is difficult to understand the unwarranted concern on the part of many psychoanalysts that other symptom-equiva-

lents will be substituted. Data does not substantiate these contentions. And is not the bulk of medical treatment directed toward symptom removal? Naturally, an organic etiology should always be ruled out *a priori* by careful differential diagnosis.

Many other disorders stemming wholly or partly from emotional factors can be helped by hypnotherapy. Even in certain organic entities as gynecological, dermatological, neuromuscular and gastrointestinal, hypnosis often raises the adaptive responses and effectively mobilizes resistance of the host to stress, viral or bacterial agents. Failure to recognize these subtle factors affecting the course of multiple sclerosis, arthritis, and even carcinoma, for example, is driving many patients into the cultists arms, who employ powerful suggestion and hypnosis to alter the prognosis of the disease.

In gynecology, functional menstrual disorders and frigidity often respond readily to hypnotherapy. Since eighty percent of the deliveries in the country are performed by the general practitioner, hypnosis reaches its greatest potential in obstetrics. Group hypnotherapy is a practical and time-saving method. The "emotional contagion" of the group enables patients to become more highly motivated, and as a result, deeper states of hypnoanesthesia are obtained. To eliminate guilt, it is emphasized that analgesia and anesthesia will be available if needed, and the patient should not hesitate to ask for it.

All patients, however, are carefully screened to eliminate the zealot who seeks hypnosis primarily for self-aggrandizement of her ego to overcome deep-seated feelings of inferiority. Depressive reactions can often result in such individuals. However, this is not an indictment of hypnosis *per se*, but rather an error in recognizing a severe character disorder. There-

fore, a personality appraisal in all candidates for hypnotic childbirth is important.

The advantages of hypnosis, as employed by the obstetrician, are shortening of the first stage of labor by several hours, marked reduction in maternal exhaustion, heightened pain threshold and increased cooperation during the expulsive stage. Patients, if they wish, can optionally perceive pain. There is no danger to either mother or baby. As Janet once stated, "The only danger of hypnotism is that it is not dangerous enough." There is also no interference with the natural process of labor.

The disadvantages of hypnosis are the added time needed for prenatal conditioning (however, this is overcome by group training), and the fact that hypnotic depth may be affected by psychosocial factors and therefore, render disturbed patients unsuitable for the procedure.

Although less than ten percent of patients requiring major surgery can be hypnotized deeply enough, it can be used to lessen pre-operative fears, reduce chemoanesthesia by fifty to seventy-five percent and eliminate the need for respiratory depressing narcotics. Thus the danger of anoxia is lessened. Neurogenic shock is definitely diminished.

Postoperatively, atelectasis and pneumonitis can be prevented by hypnotic relaxation as it facilitates the tracheobronchial toilet. The breathing and cough reflex can be regulated through posthypnotic suggestions, and excessive postoperative pain and vomiting usually can be decreased or prevented. In good hypnotic subjects, appetite suppressing narcotics can be eliminated, thus improving nutrition with subsequent better wound healing. During the past twenty-five years, I have demonstrated the effectiveness of hypnoanesthesia in numerous deliveries. Many other surgical procedures have been performed—all without anesthesia or analgesia.

Conclusions

Hypnosis is a process of conviction built upon the compounding of one belief on another. It is a subjective phenomenon that is

inherently present in all humans—the operator merely elicits the built-in capacities of the organism to respond to ideas and feelings.

Thus, it is indeed a wise hypnotist who knows who is hypnotizing whom!

The only danger to the use of hypnosis is that unfortunately, it is not dangerous enough. The reputed dangers from use of hypnosis can be attributed to what is inadvertently said in the doctor-patient relationship; these same remarks would cause harm.

Hypnosis is resisted more on the basis of irrational prejudice and emotionalism rather than by scientific validity. It is not a panacea, but the use of hypnosis as a multi-faceted diagnostic and therapeutic tool should not be un-

derestimated. Its utility could and should be broadened if used judiciously as an adjunctive procedure within the framework of holistic medicine.

Deeply disturbed individuals or psychotics, of course, should be hypnotized only by the psychiatrist who can employ hypnoanalysis or hypnosynthesis. But every general practitioner, on the basis of his personality, clinical experience, judgment and training, can obtain excellent results with supportive hypnotherapy for a wide variety of psychosomatic conditions.

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HYPNOSIS AS AN ADJUNCT TO ANESTHESIA IN CHILDREN

"Although hypnosis has not had widespread employment in anesthesiology, there are increasing indications for its use.

Hypnosis is a valuable adjunct to anesthesia in children. It may be employed successfully in the induction of anesthesia to make the course of anesthesia smoother and free from psychic trauma. It can also be used with benefit in conjunction with regional anesthesia. Children usually make ideal subjects for hypnosis. Those from ages 7 to 14 years are the most susceptible, although hypnosis may be effective in the younger age group.

The advantages of hypnosis are found in the use of reduced doses of chemical agents and in the effective use of posthypnotic suggestion which makes for a more pleasant reaction from anesthesia and a smoother postoperative course. The primary disadvantage of hypnosis is the additional time required, which may not always be available in a busy practice.

The first two cases using hypnoanalgesia as the anesthetic technique for cardiac ventriculotomy are described. These cases reveal that hypnosis raises pain thresholds and that consciousness is not lost under hypnosis."

MILTON J. MARMER

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Systemic Therapy in Pyogenic

Systemic antibiotic therapy is indicated in widespread skin infections, in pyoderma, abscesses, pustular eruptions, or ulcerative processes with secondary infection. In these clinical conditions, the dermatologist realizes that the invading pathogen is not the only factor to be dealt with.

The interaction of the tissues of the host with the invading organism produces the clinical picture calling for proper management. Good dermatologic care consists of using the proper antibiotic, and increasing the resistance of the patient to infections.

A fair number of patients are known to have developed sensitivity to penicillin. In addition, other antibiotics have proven to be potent sensitizers of the skin. There is a need, therefore, for an antibiotic which is active primarily against the gram-positive organisms usually found in skin infections but which is relatively free from causing allergic sensitivity, toxic reactions, or disorders produced by an ecological imbalance.¹

Though it may be considered one of the newer antibiotic compounds, triacetyloleandomycin* has been in wide clinical use for several years. Well-planned clinical studies of this drug in dermatologic disorders have been reported in the literature.²⁻⁸ These reports indicated a satisfactory degree of success with triacetyloleandomycin in pustular and cystic acne and various other pyoderma, including some caused by *Staphylococcus aureus* resistant to other antibiotics. Long-term therapy with this

antibiotic has proved to be relatively free of sensitization or other allergic and toxic reactions. Therefore, the present writer undertook to evaluate triacetyloleandomycin in his own private dermatologic practice, as part of a total regimen of dermatologic management.

Procedures and Materials

Seventy-four patients who had various skin disorders were treated with triacetyloleandomycin in this study. (See table of summarized results.)

Thirty-six patients with pustular cystic acne comprised GROUP I. For one week, at the outset of therapy, these patients were given daily dosages of 750 mgms. of triacetyloleandomycin in divided doses. The daily dosage was reduced to 500 mgms. of triacetyloleandomycin and maintained for another two weeks. Daily dosages were further reduced, to 250 mgms., and continued for four more weeks. The entire course of therapy usually took seven weeks.

Twenty patients who had chronic recurrent furunculosis were treated in Group II. The regimen included 1.0 Gm. of triacetyloleandomycin in divided doses for each of the first

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* TAO, Product of J. B. Roerig and Company, Division of Chas. Pfizer & Co., Inc., New York.

Skin Diseases

*A report on the use of triacetyloleandomycin
in various dermatologic diseases.*

RESULTS OF TRIACETYLOLEANDOMYCIN THERAPY

DIAGNOSTIC CATEGORIES	NUMBER OF PATIENTS	DAILY DOSAGE OF TRIACETYLOLEANDOMYCIN (IN DIVIDED MG. DOSES)	DURATION OF THERAPY	EXCELLENT	RESULTS GOOD	FAIR
I Pustular Cystic Acne	36	750 500 250	1 week 2 weeks 4 weeks	25(70%)	7(20%)	3(10%)
II Chronic Recurrent Furunculosis	20	1000 500	3 days 5 days	20(100%)		
III Generalized Impetigo or Severe Impetiginized Eczemas	10	750	1 week	10(100%)		
IV Dermatophytoses with Secondary Lymphangitis and Cellulitis	4	100	3 days	4(100%)		
V Rosacea with Pustular Lesions	3	500	3 weeks		3(100%)	
VI Creeping Eruption (larva migrans) with Secondary Infection and Abscess Formation	1	1000	3 days	1(100%)		
Total	74			60(81%)	10(13%)	3(4%)

three days of therapy. For the next five days, the patients were given 500 mg. of triacetyloleandomycin daily in divided doses. The course of treatment took eight days. Among these patients were three in whom other antibiotics had proved ineffective.

Those treated in GROUP III were ten pa-

tients who had generalized impetigo or severe impetiginized eczemas. These persons were given triacetyloleandomycin therapy for one week. The daily dosage was 750 mgms. in divided doses.

In GROUP IV were four individuals. These patients had dermatophytoses with secondary

lymphangitis and cellulitis. One hundred mgms. triacetyloleandomycin was given daily to these individuals for three days.

GROUP V consisted of three patients who had pustular rosacea. These patients had not improved on the usual treatment for rosacea, and so were therefore given daily dosages of 500 mgms. of triacetyloleandomycin for a period of three weeks.

In the final category, GROUP VI, there was one patient who had a creeping eruption (larva migrans) with secondary infection and abscess formation. This patient, who had not previously responded to penicillin, was given 1.0 Gm. of triacetyloleandomycin daily in divided doses for three days.

Results

Overall objective results were evaluated as excellent, good, or fair. "Excellent" means complete remission of skin lesions following the course of therapy as outlined for each group of patients. "Good" means remission of most but not all the skin lesions. "Fair" means remission of some but not most of the skin symptoms.

GROUP I. (Pustular cystic acne: thirty-six patients). Excellent: twenty-five patients (70%); Good: seven patients (20%); Fair: three patients (10%). Medication was withdrawn and the course of therapy not completed in one patient who experienced diarrhea as a side effect.

GROUP II. (Chronic recurrent furunculosis:

twenty patients). Excellent: twenty patients (100%). All furuncles healed promptly. Surgical drainage was rarely necessary. One patient in this group had diarrhea, not requiring cessation of therapy.

GROUP III. (Generalized Impetigo and severe impetiginized eczemas: ten patients). Excellent: ten patients (100%). By the end of the week, all lesions were healed.

GROUP IV. (Dermatophytoses with secondary lymphangitis and cellulitis: four patients). Excellent: four patients (100%). All skin lesions were satisfactorily healed.

GROUP V. (Rosacea with pustular lesions: three patients). Good: three patients (100%). After three weeks, there was no recurrence of pustular lesions in these patients. Treatment for the rosacea continued.

GROUP VI. (Creeping eruption [larva migrans] with secondary infection and abscess formation: one patient). This patient, who had a penicillin-resistant infection, responded promptly and excellently to triacetyloleandomycin.

In summary, of seventy-four patients who had various skin diseases, sixty (81%) obtained excellent results; ten (13%), good results; and three (4%), fair results. Diarrhea occurred in two patients (2%), necessitating discontinuation of medication in one of these individuals.

There were no individuals in this series who developed drug eruptions or serious toxic reactions.

Conclusion

Though antibiotic therapy is but one phase in the total regimen of dermatologic treatment in various pyogenic skin diseases, the practitioner must recognize its importance and judiciously select the proper antibiotic for each case.

No single antimicrobial compound is a "cure-all" to be used consistently to the exclusion of all others.

Among the antibiotics available in the systemic treatment of skin disorders, triacetylo-

leandomycin has proved very useful. Excellent to good results were obtained in seventy of seventy-four patients (94%); allergic sensitization did not occur in any patient. Diarrhea resulted in two patients, necessitating withdrawal of the drug in one person. Results with triacetyloleandomycin in this study, therefore, corroborate those of other dermatologic investigators and show this antibiotic to possess a good therapeutic index and low order of toxicity and allergic sensitivity.

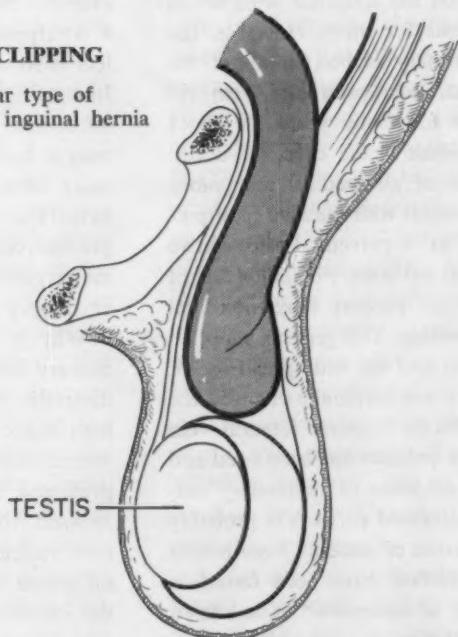
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45-14 48 Street

CLINI-CLIPPING

Funicular type of
indirect inguinal hernia



PULMONARY EMBOLISM

Pulmonary embolism is the most common of the serious pulmonary disorders seen in the patient population of an acute general hospital, outranking in frequency both pneumonia and carcinoma of the lung.

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The frequency with which pulmonary emboli are found in autopsies depends to a large extent on the diligence with which the pathologist looks for them. However, the detection of pulmonary emboli in about ten percent of hospital necropsies has been remarkably constant for many years. In about four percent embolism is the cause of death. About 1.1 percent of all medical admissions have pulmonary emboli with massive fatal pulmonary embolism in .4 percent. Postoperative patients have a fatal pulmonary embolus rate of .18 percent and .20 percent have non-fatal postoperative embolism. The general adoption of early ambulation and the widespread use of anticoagulants have not materially changed the incidence. Prophylactic bilateral femoral vein ligation in high-risk patients has been tried and abandoned. The incidence of pulmonary embolism in non-hospitalized patients is probably even higher. In studies of patients from homes for the indigent, emboli have been found in twenty-five percent of autopsies.⁵ It is known that fatal or non-fatal pulmonary embolism occurs occasionally in active, ambulant, apparently healthy adults especially after prolonged automobile, train, or airplane trips.¹⁰

In the face of the clear documentation by

the pathologist of the frequency and importance of pulmonary embolism and the many excellent clinical reviews in the literature,^{1, 2, 4, 8} it is surprising that the seriousness of the problem is so seldom considered by hospital staffs. In most hospitals, pulmonary embolism is a very infrequent clinical diagnosis. It is not uncommon to hear a hospital staff member, a surgeon more often than an internist, state that pulmonary embolism just is not a problem in his practice. Such a statement generally means that the surgeon recognizes only those emboli found at autopsy by the pathologist.

Why is the antemortem diagnosis of pulmonary embolism not made more often? The diagnosis of pulmonary embolism requires a high index of suspicion, a familiarity with the varied clinical manifestations which may be presented, and a willingness, when suspicion is aroused, to pinpoint the diagnosis by careful observation of the patient and by the energetic utilization of ancillary procedures, particularly the electrocardiogram and the chest x-ray. Also, there must be a willingness to accept the diagnosis when reliable criteria are satisfied. Pulmonary embolism cannot be proved in the living patient to the skeptic who demands absolute proof.

Pathogenesis

Eighty-five percent of pulmonary emboli arise from venous thrombosis in the lower extremities; five percent in the abdominal, pelvic area; five percent in thorax and upper extremities; and five percent in the veins of the head and neck.⁵ The pathogenesis of the venous thrombosis which leads to pulmonary embolism is poorly understood. Three factors are important. The importance of venous stasis is testified to by the frequency of thrombosis in patients confined to bed, in patients with fractures and paralyzed limbs, and by the frequency of phlebothrombosis in people who sit or sleep in cramped quarters on train, auto, or airplane trips. Trauma, surgical or accidental, is an important predisposing cause.

In general, thrombosis is more frequent after major surgical procedures than after minor procedures. However, trivial trauma may, on occasion, initiate a vicious recurrent thrombo-phlebitis which may be most difficult to control. Lastly, the frequency of venous thrombosis in anemia, polycythemia and carcinoma suggests some as yet unrecognized change in the coagulability of the blood in these conditions which predisposes to thrombosis.

Diagnosis

Pulmonary embolism produces a wide variety of clinical manifestations. The physician who waits for the classical triad of hemoptysis, dyspnea, and chest pain will diagnose less than twenty percent of the patients.⁵ Hemoptysis occurs in less than one-third of patients. Chest pain is absent in almost thirty percent. Dyspnea is absent in about fifty percent. Failure to find evidence of thrombophlebitis should not allay the suspicion of pulmonary embolism. Clinical evidence of thrombophlebitis is found in only about sixty percent of patients, and in twenty percent of these, there is no evidence of thrombophlebitis at the time embolism occurs. Failure to find a pleural friction rub does not rule out embolism, since this will be found in only about twenty-five percent of cases.

How then does one diagnose pulmonary embolism? Again it is repeated that one must have

a high index of suspicion.

Embolism should be suspected in the following situations:

1. In any postoperative patient who develops an unexplained fever or tachycardia, especially if the tachycardia is out of proportion to the fever.
2. In any patient with a limb immobilized by hemiplegia or fracture who develops fever, tachycardia, or chest pain, because venous thrombosis is very common in this situation.
3. In any patient having pneumonia who has developed respiratory symptoms without an antecedent upper respiratory infection, especially if pneumonia is recurrent or bilateral.
4. In a patient who develops a paroxysmal arrhythmia without apparent cause.
5. In a patient with congestive failure who has unexplained exacerbations of his congestive failure or whose congestive failure is refractory. Remember that dyspnea without chest pain is not rare in pulmonary embolism.
6. In all patients who have episodes of apparent coronary insufficiency or infarction. Pulmonary embolism is common in myocardial infarction and conversely pulmonary embolism may precipitate myocardial infarction. The SGOT determination helps differentiate pulmonary embolism from myocardial infarction since the SGOT is seldom abnormally elevated in pulmonary embolism.
7. In unexplained episodes of syncope, convulsion, or hemiplegia, since pulmonary embolism may give rise to cerebral ischemia, especially in the elderly.
8. In the syndrome of the acute abdomen, since diaphragmatic irritation from pulmonary infarction may give rise to severe upper abdominal pain with marked muscle guarding simulating true rigidity.
9. In chronic cor pulmonale. Recurrent showers of small emboli may give rise to chronic pulmonary hypertension.
10. The commonest symptoms of pulmonary embolism are chest pain, pleuritic or anginal in seventy percent of patients and dyspnea in fifty percent. The most common signs are

fever (eighty percent), rales (sixty percent), tachycardia (sixty percent) and tachypnea (forty-five percent). Next comes hemoptysis in thirty percent.

Value of the X-Ray and Electrocardiogram

It is important to recognize that the chest x-ray may be entirely negative after pulmonary embolism. However, in about fifty-five percent of such patients, the chest x-ray will show finding compatible with embolism.⁵ In another twenty-eight percent, there will be significant x-ray findings which, in themselves, are non-specific as regards the presence of embolism.

The electrocardiogram shows significant findings in seventy percent of cases of pulmonary embolism. In only ten percent of cases is the typical pattern of acute cor pulmonale present.¹⁰ The common electrocardiographic findings are right axis shift, clockwise rotation, the appearance of a QR in AVR, T inversion in the right precordial leads, and changes of coronary insufficiency. These changes are transient returning to normal within a week generally.

Therapy

The only truly effective treatment of pulmonary embolism is the prevention of venous thrombosis. This must be so since a high percentage of patients die with the initial embolus. In one study at the Massachusetts General Hospital, fifty-three percent of patients died with the initial embolus.¹⁰ As yet, an ideal prophylaxis for venous thrombosis has not been discovered. Prophylactic vein ligation has been unsuccessful. Prophylactic anticoagulant therapy has had a better record but its result too leaves much to be desired. Early ambulation has been unsuccessful perhaps because generally early ambulation means simply having the patient sit in a chair rather than lie in bed. This promotes rather than relieves stasis. The application of elastic stockings to the legs of all postoperative patients by Wilkins and associates has significantly reduced the incidence of thromboembolism in their patients.

For the acute attack of acute cor pulmonale,

there is not a really effective treatment. The outcome of the acute episode depends chiefly on the size of the embolus and the degree of generalized reflex contraction of the pulmonary vascular bed. A small embolus may cause death. Atropine sulfate intravenously in large doses (gr. 1/60) and oxygen therapy are rational procedures which may favorably influence the outcome.

Once the patient has survived the acute episode, it is important to institute therapy to prevent further emboli. It is known that in the untreated patient there is a thirty percent chance that the embolization will be repeated and a twenty percent chance that fatal embolism will occur. For many years, there was a vigorous debate as to the relative value of vein ligation and anticoagulant therapy. It is now generally accepted that anticoagulation, unless contraindicated by coexisting diseases, is the treatment of choice. Intermittent intravenous administration of heparin at four-hour intervals in a dosage of 50 to 100 mgms. is safe and effective and may be used until the prothrombin time has been brought into the therapeutic range with one of the coumadin derivatives.

Fibrinolysin Therapy

A new and promising mode of therapy in acute thrombosis is now under evaluation. Reference is made to the development of a potent fibrinolytic agent derived from human plasma known as fibrinolysin or plasmin. It has been reported that fibrinolysin in doses which do not significantly alter coagulation processes, consistently achieve levels of fibrinolytic activity in man when given intravenously which may be expected to be effective in dissolving acute venous thrombosis. This material may be used concomitantly with anticoagulant therapy. The material presently available causes febrile reactions in about forty percent of patients and urticarial reactions in less than one percent. Most of the reports to date on the effectiveness of fibrinolysin^{3, 5, 7, 9} have been favorable but the ultimate value of this new method of therapy must await more extensive study.

Summary

Pulmonary embolism is currently the most common of the serious pulmonary disorders seen in the patient population of an acute general hospital, outranking in frequency both pneumonia and carcinoma of the lung. It is incumbent on the physician to have an index of suspicion and a familiarity with the varied manifestations which pulmonary embolism may

present are essential if the diagnosis of embolism is to be made clinically in a high percentage of cases.

The varied clinical syndromes of pulmonary embolism are briefly discussed. The recent development of fibrinolysis as a potentially important addition to the therapeutic armamentarium is commented upon.

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A Contribution to the Theory of Personality Development

It is often said that the present can be understood only in the light of the past. Any study of the development of the personality of an individual will be unsatisfactory unless it is viewed against the background of the mental development of the human species.

According to the best paleontological research, the giant Sauria disappeared from the earth due to climatic changes about sixty million years ago. Subsequently, the mammals developed gradually, and Dryopithecus, a tree-living common ancestor of man, apes, and monkeys, is thought to have been in existence thirty million years ago. About one million years ago, the Pithecanthropus erectus, ancestor of modern man, appeared, and from there development occurred gradually through Eoanthropus dawson to Neanderthal man and Cro-Magnon man, and finally to Homo sapiens. These findings are based on morphological changes seen in skulls and skeletons and parts thereof and on the flint tools that have been found.

How can we visualize concomitant personality development? It is conceded that irrefutable proof is hardly possible because neither eyewitness account nor complete picture series are available. Therefore, all these theoretical

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considerations will satisfy only those who have enough confidence in their own powers of reasoning and observation to permit them to be fairly secure in their conclusions, although, as is conceded, a complete link of events and facts cannot be produced. The few facts that are known, although incomplete, seem to satisfy the mind of a reasoning person better than assumptions totally based on emotional needs and lacking any facts to support them.

We can easily imagine that about one million years ago our early ancestors, while fleeing for their lives over rocky ground, might have dislodged rocks which by chance hit and slew the animal that was chasing them. Or we could visualize that a tree-climbing ancestor while fleeing from an animal might in climbing a tree have broken off a bough, which then struck and destroyed the persecuting animal. If we see such events as taking place not once but again and again over thousands of years, we can speculate that gradually the relationship of cause and effect might have dawned upon these primitive ancestors and that finally they might purposefully have pushed rocks from cliffs and ledges or broken limbs from trees to use as weapons against their

victims. The first step toward the toolmaking that characterizes the human species was taken.

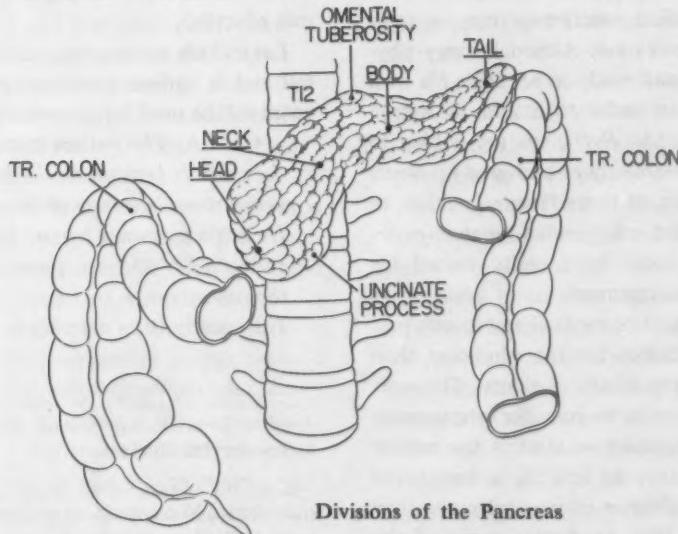
It seems unavoidable that with this accomplishment, a feeling of power and importance must have filled these early ancestors, something like this: "Am I not a most powerful, mighty, and wonderful sort of person?" You notice in this thought the origin of the narcissistic self-love and self-glorification so characteristic of mankind.

Hand in hand with this awakening of self-adulation—and you notice that I distinguish this feeling from a simple justified joy in one's own accomplishment—goes the gradual awareness of the overwhelming fearsomeness of existence in a merciless world where the rules of nature prevail. This awareness must be distinguished from previously instinctual reactions to danger. A feeling of helplessness is incompatible with the other feeling of grandeur, and the result is a desire to maintain the sense of power. A mechanism must be found which, although unrealistic, still permits the maintenance of this feeling. By creating a system by which one, in fantasy at least, can manipulate these overwhelming and

deathly perils, one again becomes—in fantasy at least—master of the universe. The perils are imagined as personification to which one seems to relinquish one's power, but by sacrifices and rituals one has the illusion of regaining control. As the clever person through flattery manipulates others to his ends, so man in fantasy maintains the illusion of being able to manipulate the deadly perils that surround him. That this is unrealistic is obvious. The gain is the maintenance of the feeling of self-grandeur. If the powers do not seem to respond we can always ascribe the fact to a faulty ritual or to insufficiency of faith. Since the entire mechanism is unrealistic, we cannot deny a psychotic element in it. The price for the feeling of self-love apparently is an unrealistic and therefore psychotic orientation. From this viewpoint a definition like "Man is a toolmaking, psychotic animal" is not too far wrong. Thus psychotic orientation to a minimal degree is unavoidable and will again and again manifest itself. Wars and destructive actions have witness to that.

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CLINI-CLIPPING



The Psychiatric Emergency

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Medical emergency is a common phrase for the physician and one upon which hinges many kinds of decisions about medical management. Whether or not a patient is to be hospitalized; whether or not the physician should drop whatever he is doing in order to immediately attend to a particular patient; whether or not immediate surgery is indicated—these and many other medical decisions will depend upon the physician's perception of how urgent a particular problem may be. Beside all of the ways in which the degree of emergency may affect patient care, there is also the very real consideration on the part of the physician that he wishes to enjoy time away from his work. The medical emergency may sharply interfere with recreation. Although every physician is willing and ready to set aside his own personal needs in order to attend to a true emergency, very few physicians are willing to work at unreasonable times and give up hours with their families, or times from relaxation, to attend to so-called emergencies (*pseudo-emergencies*) which could have easily waited for more routine management.

Probably no kind of medical emergency presents more difficulties for the physician than emergencies in psychiatric patients. The purpose of this paper is to consider emergencies in psychiatry. In order to do this the author believes it necessary to first lay a foundation in terms of a definition of medical emergency in general, and then to discuss some of the

similarities and differences between medical emergencies in general and psychiatric emergencies.

As a starting point, medical emergency is arbitrarily defined according to the following criteria:

1. A condition, disease or injury exists that has occurred suddenly or unexpectedly.
2. A condition, disease or injury exists which requires immediate medical attention in order to avoid serious deleterious effect(s) to either the patient or to others.
3. A condition, disease or injury exists for which there is an available form of treatment which can be expected to prevent such deleterious effect(s).

Let us look at these three criteria in more detail and in various combinations. Hypothetical cases will be used for purposes of amplification.

CASE A: The patient is in an auto accident and is brought to the hospital emergency room in a state of blood-loss shock. He has a fractured femur; his blood pressure is 80/40; his pulse is 120 and thready.

This clearly is an emergency. Injury was un-

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Note: The contents of this paper reflect the personal views of the author and are not to be construed as a statement of official army policy.

expected, emergency treatment is necessary to prevent death or other serious bodily injury, and there is a well-defined, recognized medical treatment for such problems.

CASE B: *A child awakens in the middle of the night, feverish with labored breathing and a croupy cough.*

Again, this case represents a clear-cut medical emergency in terms of the suggested criteria. The illness is sudden, emergency treatment is necessary to avoid possible asphyxiation and there is clearly defined, recognized medical treatment for croup.

CASE C: *A patient with the established diagnosis of grand mal epilepsy has previously been well-controlled on Dilantin.® Following the use of poor judgment in taking several drinks, the patient has a grand mal seizure and is brought to the hospital emergency room. The intern determines that there is no physical injury and that the patient is sufficiently recovered from the postictal stage to go home, but the patient's concerned family demands an immediate neurologic consultation.*

To be sure, the medical situation in Case C is sudden. However, it is not likely in any way to lead to deleterious effects, and the intern is correct in his decision that an emergency consultation is not indicated.

CASE D: *A 37-year-old, pale, tired-appearing female appears at the hospital emergency room, complaining that she has no energy. Blood test revealed a definite low hemoglobin and a blood picture of iron deficiency anemia.*

In this instance, the appropriate judgment is that no medical emergency exists. The condition is by no means sudden or unexpected and can be safely managed on a routine basis.

CASE E: *A 22-year-old-graduate student breaks his only pair of glasses, frantically calls his ophthalmologist and explains that he is having a final examination the next day and desperately needs a pair of glasses so that he can study.*

Case E, indeed, is an example of a sudden or

unexpected situation. It is quite possible, further, that certain deleterious effects can occur if it is not treated immediately. However, Case E probably should not be considered as a medical emergency because it fails to meet the third criterion; namely, there is treatment available which would prevent the possible deleterious effects. The reality of the situation is that glasses take time to make and cannot be made in time for the student to study for the examination.

The foregoing examples have been used to attempt to further clarify the definition of medical emergency as has been suggested in this paper. Obviously there will be differences of opinion in specific patients, depending on perception and values of the individual physician. One thing, however, is not a matter of opinion, and that is, the determination of whether or not a medical emergency exists is a decision made by the physician and not by the patient, the patient's family, or any other non-medical person.

This last consideration leads us now to the main goal of this paper; namely, discussion of emergencies in psychiatry. As a branch of medicine, psychiatry has a great deal in common with other specialties in medicine. The three criteria suggested for the evaluation of medical emergencies in general apply equally well in the evaluation of many emergencies in psychiatry. The following cases will illustrate the point:

CASE 1: *A 49-year-old woman, in the throes of a depression, takes twenty-five 100 mgm. secobarbital tablets and is brought to the hospital emergency room in a stuporous state.*

Applying the three criteria for medical emergency, it is obvious that Case 1 meets all three. The event is sudden and unexpected. Death or serious injury can occur unless this patient is treated and there does exist definite, recognized treatment in the way of gastric lavage followed by respiratory and circulatory support.

CASE 2: *A severely depressed 52-year-old man with a previous diagnosis of manic-depressive psychosis is brought to*

the hospital emergency room by his wife. He shows the classical triad of depression, i.e. insomnia, anorexia and psychomotor retardation. The wife states that she has become suddenly concerned because the husband has begun to ruminante about suicide.

Case 2 represents a clear-cut psychiatric emergency. The immediacy here is in the terms of the onset of suicidal tendencies, even though some depression may have existed over a period of weeks. Certainly the patient can kill or seriously harm himself, and there does exist a method of management which is designed to prevent self harm. The treatment choice here is immediate hospitalization.

CASE 3: *A 24-year-old draftsman, a very conscientious, compulsive workman, walks into his employer's office one afternoon and begins to spew out paranoid accusations about his fellow employees and to verbalize grandiose but somewhat confused ideas about his "mission in life."*

Here the criterion of suddenness of onset is present in terms of what is apparent to the outside observer. It is likely that the illness had been building up for many weeks in this psychotic man but probably was not apparent until the episode described. Treatment of some kind is indicated to prevent the possibility of this man harming his own career and, as sometimes happens, acting on his delusions and harming others. There does exist well-established recognized medical treatment in the way of hospitalization on a closed psychiatric ward and appropriate medication.

CASE 4: *A 65-year-old man becomes disoriented, uncooperative and delusional six hours after surgery. He becomes a serious management problem in that he persists in pulling out his nasal tubes and his tube for intravenous fluids.*

This patient clearly represents a psychiatric emergency. It is unexpected, treatment is necessary to prevent serious complications and there is treatment available in the form of parenteral ataractic medication, and, if necessary, transfer to a psychiatric ward.

A Summary statement of the last four cases is that any acutely psychotic patient, severely depressed patient or truly suicidal patient is a clear psychiatric emergency. Cases 1 through 4 also illustrate how standard medical criteria can be used to evaluate certain emergencies in psychiatry. However, every practitioner of medicine is well aware from his clinical experience of the many patients who present themselves as psychiatric emergencies who are by no stretch of the imagination in need of emergency treatment. A large proportion of these pseudo-emergencies involve people who have had difficulty over a period of weeks or months but who appear suddenly because of personal convenience or because they are reacting to an impulsive decision to do something about the problem right now.

Another group of pseudo-emergencies includes patients in whom there is no likelihood of their condition leading to any kind of deleterious effect. Case 5 illustrates this point.

CASE 5: *A 29-year-old woman tells the emergency room intern that she is frightened by the sudden occurrence of death-wish obsessions about her children. She is not psychotic or severely depressed and demonstrates good current and past control of her behavior.*

A serious question of harm to others is raised by this case. However, the key to a decision not to treat this woman as an emergency lies in the realization that "thoughts cannot hurt anybody." The important fact here is that one ought not to react to content of an obsessional thought, but rather should decide the really critical issue of whether or not, the patient will act on the thought.

This case raises also another difficult question. The patient came to a doctor because of intense discomfort (anxiety). Does the existence of pain or anxiety substitute for the criterion of possible deleterious effect? This question is left unanswered in this paper; in the last analysis every physician must decide for himself what degree of discomfort in a patient will for him dictate the need for emergency treatment.

Case 6 illustrates another problem:

CASE 6: The wife of a chronic alcoholic appears unannounced at a community mental health clinic, insisting that she be seen immediately. The intake social worker discovers that the patient's "pressing problem" is that her husband has fallen off the wagon. The wife does not see any problem requiring treatment in herself. She states that her husband refuses to seek medical or any other kind of help. Her plea is "do something to make him stop drinking."

Case 6, and many similar kinds of problems involving patients who do not want help, raises the question of availability of treatment. The suggestion here is that emergency treatment is not indicated when there is no treatment that is possible. The appropriate course of action here would be to investigate with the wife the possibilities and feasibility of legal action as is dictated by the nature of the problem and the nature of local laws.

So far, the problems of psychiatric emergencies have been treated mainly in terms of their similarity to other medical emergencies. Now a new tack will be taken and some differences will be examined. One way of looking at this is that in psychiatric emergencies a fourth criterion obtains which is not applicable in medical emergencies in general; that is, that there be no *contraindication* to the patient's being seen on an emergency basis. Again, a number of cases will be used to illustrate various possibilities.

CASE X: A 46-year-old woman consults her doctor because of insomnia, nightmares, and the sudden occurrence of disturbing, angry thoughts about her husband. She states to her doctor that she realizes that this is not a physical problem, but that she did not know to whom to turn and that she is afraid that she is losing her mind.

Case X illustrates a condition which might very well be considered an emergency except for an additional important determinant. Most psychiatrists would agree that one of the major

sources of concern for psychiatric patients is the fear that they are "crazy." Often times, this fear is tremendously reinforced when they are hastily spirited off to the psychiatrist for an emergency consultation. It is probably far more therapeutic for the patient if the physician who initially sees her, points out that he understands her discomfort and agrees that she is having a serious emotional problem, but that this can easily wait until a routine appointment can be made with the psychiatrist. This action on the part of the referring physician will often alleviate a tremendous amount of anxiety in the patient and also make it easier for the psychiatrist to work with the patient about fears of insanity.

CASE Y: A 34-year-old, excitable, woman is told by her husband that he is going to leave on a weekend fishing trip in spite of her protests. She begins to sob hysterically, threatens that she will kill herself and finally grabs a razor blade, makes several superficial scratches on her wrist and faints onto the living room couch. Her husband, thoroughly frightened, calls an ambulance and has his wife brought to the Emergency Room of the General Hospital.

Case Y was purposely exaggerated to illustrate a point. One of the major difficulties that faces anyone who works with people is the management of impulsive, manipulative behavior. It is a pretty well accepted psychological truth that people will persist in whatever behavior is reinforced by their environment. When the wife in the illustrative case is able to manipulate her husband into not going on his fishing trip, and to impress the doctor with the drama of her situation, then she is that much more likely to fall back on this pattern the next time she is in a situation of pressure.

It is extremely important that the physicians who see these patients first not allow themselves to be pressured into making emergency referrals to a psychiatrist in such instances; and it is further especially important to point out to the relatives that the behavior of the patient is impulsive and immature and that such be-

havior should not influence them to change what they consider to be previously made, sound judgments. Behavior such as this is not too different from a temper tantrum in a child and should be handled in a similar way; namely, one does not allow himself to be manipulated by the tantrum but rather asks himself what is missing in this patient's life that she should have to act in such an immature, unstable way.

CASE Z: A 21-year-old male appears at a community health clinic without an appointment and tells the intake social worker that he must see a psychiatrist immediately. The intake worker determines rather quickly that this man is a senior in college and has had a variety of anxiety symptoms for several years, but that the fact of his approaching graduation from college has thrown him into a panic. The intake worker further determines that this man would probably benefit from psychotherapy.

Case Z illustrates a third situation for which there may be a contraindication to seeing the patient on an emergency basis. One of the assumptions underlying outpatient long-term psychiatric treatment is that the patient will be able to manage his own affairs and sustain himself between appointments with a psychiatrist, whether these appointments be weekly, daily or monthly. It is a basic contraindication, in the opinion of this author, to refer a patient

for outpatient psychotherapy on an emergency basis. The implication of such an emergency referral is that something is going to be done immediately to change patterns of behavior which have been developing over many years.

With our current outpatient psychotherapy techniques, this does not occur and it is an error to imply to a patient that it may occur by arranging for an immediate interview with the therapist.

A far more reasonable approach to this young man would be to empathize with his discomfort and, at the same time, point out the reality that psychiatric treatment is no magic cure. Often times the realization that treatment is available is sufficiently anxiety relieving so that the patient will be able to manage quite nicely until his first appointment with the therapist.

Cases X, Y and Z have been presented to illustrate that certain additional considerations exist in the evaluation of psychiatric emergencies that one does not usually encounter in other medical emergencies. Probably the most important step that anyone who is faced with the evaluation of these problems can take, is to do whatever he can to minimize his own anxiety when faced with these cases. As in all fields of medicine, the calm, collected physician who carefully takes a history and makes the appropriate observations is going to be the most effective physician.

Summary

Three criteria for evaluating medical emergencies have been presented.

- (1) *That the illness or injury be sudden or unexpected.*
- (2) *That treatment be necessary to avert serious consequences to the patient or to others.*
- (3) *That there be treatment available for the illness or injury.*

Various case presentations have been used to illustrate various combinations and ramifica-

tions of these criteria. It has been further shown that many kinds of psychiatric emergencies can be evaluated in very much the same way that other medical emergencies can be evaluated; however, it was then pointed out with illustrative cases that with psychiatric emergencies a fourth criterion must be taken into account.

- (4) *That there be no contraindication to emergency treatment.*

U. S. Army Hospital

Oral Treatment of Allergic Coughing and Wheezing

A series of fifty-three patients with acute bronchitis, infectious asthma, or allergic asthma were treated for acute symptoms of their disease with Norisodrine Syrup. Approximately eighty-five percent were benefited in terms of relief of wheezing and coughing. It is recommended that the oral form of Norisodrine be used for maintenance therapy and that inhalation of Norisodrine powder be reserved for relief of acute symptoms.

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Of fundamental importance in the treatment of any allergic patient is discovery and elimination of the causative agent. It is not always possible, however, to discover the offending agent or to avoid its consequences. Nonspecific symptomatic treatment is therefore used to control the acute symptoms as they occur. Additionally, it is desirable to employ prophylactic and maintenance therapy in the allergic individual in order to lessen or avoid intense attacks.

Injections of various agents are obviously not practical for maintenance therapy and are met with considerable patient resistance. Inhalations of powders or nebulized sprays of sympathomimetic drugs are more appropriate for controlling symptoms of acute attacks^{1, 2} and are properly reserved for that purpose. Medications given by the oral route, in the form of tablets or liquid, are readily accepted by the patient. However, widespread popularity of the convenient and effective inhalators during the past few years has obscured this useful³⁻⁷ and practical means of prophylactic therapy with isoproterenol sulfate.

Recently this agent has been made available in the form of a syrup containing isoproterenol sulfate (Norisodrine Syrup®).^{*} Isoproterenol sulfate is a sympathomimetic amine. Care should be exercised in patients receiving it to see that, ephedrine, adrenaline or other sympathomimetic drugs are not administered simultaneously with Norisodrine. It has been reported on favorably for treatment of allergic cough and wheezing especially in children.⁸ It was decided to investigate its possible usefulness for adults with similar symptoms.

The present report summarizes experience gained in treating fifty-three consecutive adult patients with acute bronchitis, or asthma of infectious or allergic origin, accompanied by wheezing and coughing. All of the patients de-

*Isoproterenol Sulfate, with Calcium Iodide, (Norisodrine Syrup®) Abbott Laboratories, North Chicago, Illinois.

TABLE 1 NORISODRINE® RESULTS IN ACUTE BRONCHITIS

PT. NO.	DURATION OF SYMPTOMS (days)	TYPE OF COUGH	USUAL CLINICAL COURSE	Key to Abbreviations:	
				P = Productive	R = Resolved completely
				U = Unproductive	S = Severe
				M = Moderate	B.D. = Bronchodilators
				Sub = Substantial	O = No response
1	2	U-S	Cough persists for 7-10 days	Sub	Sub
2	7	P-M	Usually requires antibiotic	Sub	Sub
3	4	U-M	Self-limited in one week	M	M
4	2	U-S	Cough prolonged & fatiguing	Sub	Sub
5	1	U-M	Self-limiting 3-4 days	O	O
6	2	P-M	Self-limiting to 5-7 days but fatiguing	Sub	Sub
7	4	U-M	Self-limiting to 7-10 days but fatiguing	Sub	Sub
8	3	U-S	Has developed pneumonia previously	Sub	M
9	2	U-M	Cough persists 7-10 days	Sub	Sub
10	3	U-M	Runs course in 5-7 days	M	Sub
11	1	P-M	May clear in 3 days or persist for 2 weeks	Sub	Sub
12	2	U-S	Cough difficult and persistent	Sub	Sub
13	3	P-M	Antibiotic required	O	O
14	2	U-S	Has developed pneumonia previously	Sub	Sub
15	5	P-S	Lasts 7-10 days	O	Sub
16	4	U-S	Usual duration 10 days to 2 weeks	Sub	Sub
17	2	U-S	Usual duration 5-7 days	O	O
18	3	U-M	Usual duration 10 days	Sub	Sub
19	1	U-M	5-7 days	O	O
20	3	U-S	2-3 weeks	Sub	M
21	3	P-M	About 2 weeks	Sub	Sub
22	4	U-M	1-2 weeks	O	Sub
23	2	U-M	10 days usually	M	Sub
24	1	U-S	About 1 week	Sub	Sub
25	2	P-M	About 10 days	M	M
26	3	U-S	About 7-10 days	O	Sub
27	2	U-S	About 1 week	O	O

* All patients were given 2 teaspoons initially and 2 teaspoons every 3 to 4 hours thereafter.

TABLE 2 NORISODRINE® RESULTS IN INFECTIOUS ASTHMA

PT. NO.	DURATION OF SYMPTOMS	DEGREE OF WHEEZING	TYPE OF COUGH	USUAL CLIN. COURSE	24-HOUR RESPONSE TO THERAPY*		
					COUGH: PROD.	COUGH: FREQ.	WHEEZING
1	6	S	P-S	Symptoms persist for several weeks	Sub	Sub	Sub
2	2	M	U-M	May become chronic; i.e., 4-6 weeks	Sub	Sub	Sub
3	3	S	U-M	May persist for 3-4 weeks	Sub	Sub	Sub
4	10	S	U-S	Requires sub B.D.	M-O	O	O
5	3	S	U-M	Persists 7-10 days	M	M	M
6	2	S	U-S	Usually 2 weeks duration	O	Sub	Sub
7	2	M	P-M	2-3 weeks duration	Sub	Sub	O
8	21	S	—	Usually requires intensive antibiotic Rx	O	O	M
9	10	S	U-M	4-8 weeks without much B.D.	Sub	Sub	M
10	4	M	—	10-14 days	O	O	R
11	2	S	—	7-10 days & has developed pneumonia	O	O	Sub

TABLE 3 NORISODRINE® RESULTS IN ALLERGIC ASTHMA

PT. NO.	DURATION OF SYMPTOMS (DAYS)	DEGREE OF WHEEZING	TYPE OF COUGH:	USUAL CLIN. COURSE	24-HOUR RESPONSE TO THERAPY*		
					COUGH: PROD.	COUGH: FREQ.	WHEEZING
1	4	S	U-M	Persists for 1-2 weeks	Sub	R	R
2	2	M	none	Large quant. B.D. required	—	Sub	Sub
3	1	M	U-M	Lg. qt B.D. used	M	M	M
4	3	M	none	No sleep, lg. qt of B.D.	—	—	Sub
5	4	S	none	none	—	—	O
6	5	M	U-S	No sleep, lg. at B.D., I.V., Rx.	Sub	Sub	Sub
7	2	M	U-M	10-14 days c B.D. Rx	M	M	M
8	3	M	P-M	About 2 weeks Incr B.D. Rx	—	Sub	Sub
9	chronic	S	U-S	Req lg. qt B.D. 24 hrs. a day	Sub	Sub	M
10	chronic	M	none	lg. qts B.D. Rx	—	—	Sub
11	chronic	M	none	lg. qts B.D. & no sleep at nite	—	—	Sub
12	4	M	P-M	Attacks last several weeks	—	Sub	M
13	7	M	U-M	Lg. qt B.D. Rx	M	M	Sub
14	10	S	U-M	none	—	—	—
15	2	M	U-M	Lg. qts B.D. Rx required	M	M	M

scribed in this series had been observed during previous attacks and all had been treated with one or more of the drugs ordinarily employed in such circumstances. It was therefore possible to ascertain either the effects of the medication *per se* by comparing previous duration and intensity of symptoms, or to estimate its effectiveness by the sparing effect upon other medications customarily required for relief or resolution of the attack.

Methods and Materials

The series consisted of fifty-three outpatients, twenty-seven of whom had acute bronchitis, eleven infectious asthma, and fifteen allergic asthma.

Of the patients with acute bronchitis (Table 1), fourteen had experienced symptoms for two days or less while thirteen had had symptoms for from three to seven days. A dose of two teaspoons (1 teaspoon contains 3 mgms. of isoproterenol sulfate and 150 mgms. of calcium iodide) was administered initially, followed by similar doses at three- to four-hour intervals. Antibiotics were given concomitantly to nine patients.

A second group, consisting of eleven patients who had symptoms of infectious asthma, were treated on a similar dosage schedule (Table 2). When first seen, all these patients had moderate or substantial wheezing, and all but three were coughing. Antibiotic therapy was required in only one patient.

The fifteen patients who had allergic asthma (Table 3) were also given two teaspoons of

Norisodrine Syrup initially and at three- to four-hour intervals thereafter. All had moderate or substantial wheezing, and eight had an unproductive cough. None of these patients required antibiotics.

Results

Observations were subjective and based only upon a twenty-four- to forty-eight-hour interval. Improvement was noted in twenty-two of the twenty-seven patients with acute bronchitis. Moderate or substantial improvement in productivity of their cough was noted, which became less intense and less frequent. During previous attacks, many of these patients required antibiotic therapy, developed pneumonia, or became excessively fatigued because of persistent coughing and dyspnea. In view of the results obtained, it would appear that there is a bronchospastic factor in acute bronchitis and that it may often be effectively resolved by the isoproterenol sulfate mixture.

Of the eleven patients suffering from infectious asthma, all but one showed improvement in their symptoms. Wheezing decreased in all but two patients, and coughing was less frequent in six.

Thirteen of the fifteen patients who had allergic asthma experienced improvement of symptoms during the twenty-four to forty-eight hours of observation. During previous attacks, eleven of the patients had required large quantities of bronchodilators intravenously, rectally or by inhalation. These were not necessary when the isoproterenol mixture was employed.

Conclusion

The reduction in the use of bronchodilators, the reduction in cough, the increased productiveness of cough, and the improved sleep observed in a majority of the patients treated indicates that the mixture containing oral isoproterenol plus iodide was effectively absorbed and active at the desired broncho-pulmonary site.

The most consistent observation made during Norisodrine Syrup therapy was a reduced

requirement for bronchodilators such as ephedrine, epinephrine, and aminophylline. All but eight patients showed subjective evidence of improved breathing; excellent control of other symptoms was also noted during the observation period. Since fewer exhausting paroxysms occurred during treatment with Norisodrine Syrup, the need for frequent "heroic" measures such as oxygen, aminophylline I.V., etc., was obviated.

It is suggested that since Norisodrine Syrup was effective in controlling or alleviating symptoms in the majority of patients observed, it is useful not only in therapy but also for prevention and for maintenance in cases of the types

described. Longer periods of observation may be desirable to confirm these initial impressions; however, there was no doubt in the mind of the observer or on the part of the patients themselves that definite benefit was obtained.

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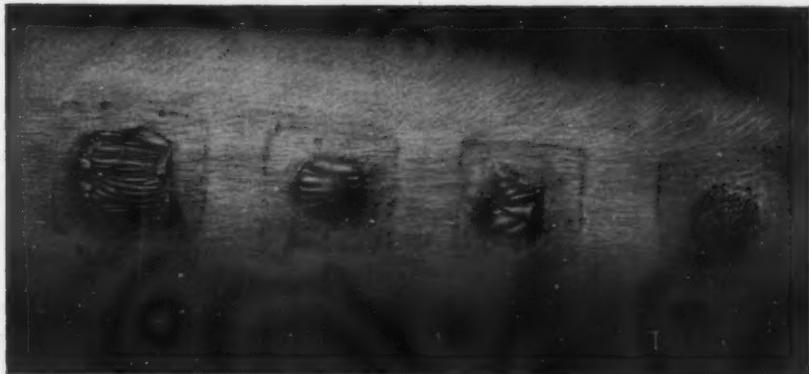
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Medical Department
San Francisco Airport



CLINI-CLIPPING



Results of patch tests on forearm of patient hypersensitive to iodine. The Concentrations from left to right were $\frac{1}{2}$, 1, $1\frac{1}{2}$, 2 per cent iodine (after Becker and Obermayer).

Clinical Pathological Conference

UNIVERSITY OF MICHIGAN MEDICAL CENTER

This 16-month-old white female infant had been well until the age of 6 weeks when she developed frequent respiratory infections and a chronic cough. At 3 months of age she began to have three to four loose, watery, foul smelling stools daily, which were greasy after ingestion of fatty foods. The cough became much worse at 5 months of age and was productive of a thick, yellow sputum. Breathing became labored. The child always had had a good appetite and had eaten ravenously when given food. She had been seen at the University Hospital four times.

Temperature was 100.6°; blood pressure, 90/65 mm Hg; pulse, 140/minute; respirations, 35/minute and labored. The baby was malnourished, irritable, and mildly cyanotic. There was clubbing of the fingers. The neck veins were moderately distended. There were shotty axillary and inguinal lymph nodes. A moderate increase in the anteroposterior diameter of the chest was noted. The diaphragm was low and showed poor excursion. The baby was dyspneic, with most of the difficulty occurring during inspiration. There was retraction of intercostal spaces with inspiration. The lungs were hyper-resonant with harsh, crackling, inspiratory rales throughout both lung fields. The aortic second sound was louder than the pulmonic second sound. The abdomen was protuberant and tympanitic. The skin over the abdomen showed a mild heat

rash. The liver was palpable 6 cm below the right costal margin.

Chest films demonstrated diffuse linear and nodular infiltrations throughout both lung fields. There was marked emphysema. Striking enlargement of all cardiac chambers was noted.

Urinalysis revealed one-plus albumin and one-plus sugar. Hemoglobin was 11.8 gm %. White blood cell count was 14,800/cm mm with 49% polymorphonuclear leukocytes. The white blood cell count rose to 31,000/cu mm two days after admission. Three stool examinations indicated a lack of trypsin activity. The chloride content of perspiration was 124 mg%. Electrocardiogram revealed right axis deviation. Culture of the nasopharynx revealed *Pseudomonas aeruginosa* as the predominant organism. Mantoux test O.T., 1:4000, was negative after 48 hours.

Hospital Course

On admission the patient was placed in a croupette with oxygen. Albamycin and digitalis were given. She improved slightly on this regimen for the next few days. However, her heart rate remained rapid and the liver remained palpable 5 cm below the right costal margin. After finding *Pseudomonas aeruginosa* in the nasopharynx, polymyxin B was started intramuscularly. The patient gradually became more cyanotic and lethargic. On the ninth

The clinical pathological conference at the University of Michigan Medical School and Hospital is unusual in that most of the cases are presented by senior medical students and discussed by a clinician, pathologist and radiologist. Two cases are presented weekly for a 45-week period in each school year. So-called unknown cases are presented weekly at an additional pathological conference sponsored by the departments of internal medicine, pathology and radiology for the house staff and students. The following is a student presentation. Participants include four students, a professor of pediatrics, an instructor in radiology, and a professor of pathology.

hospital day she began to vomit. Respirations ceased at 11:40 A.M.

Summary

In summary, we have a 16-month-old baby girl who at the age of 6 weeks first began to have evidence of respiratory infection. At 2 months of age she showed signs of gastrointestinal disturbances, with frequent bulky foul-smelling stools. Fourteen months later she succumbed with severe cardiorespiratory insufficiency. The final clinical diagnosis was *fibrocystic disease of the pancreas*, with severe bronchitis, pneumonia, emphysema, and cor pulmonale.

DR. WATSON: I would like to ask one question of the previous discussant. Was there a family history of fibrocystic disease or anything otherwise significant in the patient's family history?

ANSWER: This was the only child. No family history of this or other similar diseases was elicited.

Roentgenograms

We have two examinations of the chest of this child, the first in June of this year. In a frontal examination, the chest appears to be somewhat over-distended. The ribs are elevated and the intercostal spaces are prominent. There is parenchymal abnormality in both

upper lung fields. This appears as an ill-defined patchy granular infiltration. The lower lung fields appear to have an increase in radiolucency.

The heart, on frontal projection, is normal in contour and size. There is a slight increase in prominence of the mediastinal shadow on the right; however, this is within the limits of normal. There is a contour in the right hilar region that may represent a slightly enlarged lymph node. The lateral film at that time shows that the diaphragm is somewhat depressed and flattened. The heart appears somewhat increased in size in its anterior-posterior diameter and the parenchymal abnormality in the lung is again apparent. It was felt that this represented pneumonitis, bilateral, of bronchopneumonia type, with generalized emphysema.

These changes were thought to be compatible with fibrocystic disease, particularly since an examination in September showed persistence of the parenchymal abnormality in both upper lung fields. The abnormality increased in degree in the lower lobes. At this time, September, there is a striking enlargement of the cardiac silhouette. It appears to be a generalized enlargement of the heart. No specific chamber enlargement is identified.

Again, the diaphragm is depressed. On lateral view we see the abnormal markings. There is some increase in anterior-posterior diameter of the chest.

The findings are typical of chronic pulmonary infection with emphysema, the enlarged heart suggesting failure. All of these changes are suggestive of those in advanced fibrocystic disease of the pancreas.

Gross Necropsy

The body of this 16-month-old female infant was malnourished. It measured 78 cm in length and weighed 17½ lbs. The anterior-posterior diameter of the thorax was increased. Clubbing of the fingers and toes was noted. The subcutaneous panniculus was markedly reduced in amount, with that over the abdominal area being 3 mm in thickness and over the thoracic area 1 mm thick. The omentum was

almost devoid of fat. The edge of the liver was 4½ cm below the xiphoid process and 2½ cm below the right costal margin.

The leaves of the diaphragm were at the levels of the left 7th and right 6th intercostal spaces. The cardiac apex was 6 cm to the left of the midsternal line, in the 7th intercostal space.

The lungs were voluminous. Both pleural cavities were filled by the distended lung tissue. The lungs did not collapse when the chest was opened, and overlapped 1 cm at the 2nd interspace anteriorly when the sternum was removed. The left lung measured 15 x 11 x 5 cm and weighed 100 gm; the right lung, 14 x 11 x 4 cm and weighed 150 gm. The lungs were pale in color and spongy in consistency. The posterior portion of the right lower lobe was firm in consistency and mottled red in appearance.

Upon sectioning the lungs, no edematous fluid was expressed, but an abundance of green, thick, tenacious material was noted. This material was present in bronchioles as well as in the larger air passages. The hilar lymph nodes were slightly enlarged.

The heart was enlarged; it measured 8 x 6½ x 4½ cm and weighed 100 gm. The right ventricle was enlarged and constituted almost the entire anterior surface of the heart when first viewed in the body. Upon opening the heart the right ventricle was enlarged, the musculature was hypertrophic, and the right ventricular wall was 8 mm in thickness, while the wall of the left ventricle was only 5 mm thick. The large intestine, particularly the transverse, descending and sigmoid portions of the colon, had a thickened wall which on section appeared to be the result of hypertrophy of the muscle.

The pancreas was firm in consistency, but the size was not materially reduced. The cut surface showed an increase in lobular demarcation but was not strikingly changed grossly. The pancreas measured 8 x 2½ x 1½ cm and weighed 32 gm. The gallbladder was small and thick-walled. Thick, tenacious, sticky, almost colorless material was present in the

lumen. Salivary glands were not dissected. The gross pathologic diagnosis was essentially the same as the final clinico-pathologic diagnosis given later.

Microscopic Findings

The first section is from the trachea and esophagus. In the trachea we see an increase in prominence of the mucous glands. On the mucosal surface some of the glands exude thick tenacious mucin into the lumen of the trachea. There is some thickening of the basement membrane of the mucosa. Inflammatory cellular infiltration is present in and around the mucous glands. Active chronic mucopurulent tracheitis.

The second section is that of lung and the dilatation of bronchioles is the striking feature. In the low-power projection areas of emphysema are noted. Around the bronchioles there is cellular infiltration and some congestion.

Under a higher power, the bronchioles are filled with thick mucin and a cellular exudate. Surrounding the bronchioles in cellular infiltration, indicating chronic pneumonitis inasmuch as most of the cells are lymphocytes. Congestion and emphysema are again demonstrated. The third section is a frozen section of liver stained with fat dye. Around the central veins there is evidence in this preparation of degenerative fatty infiltration. This change is practically limited to the area of the central lobular portion of the liver. While this change is not a specific finding in this disease, it is probably the result of anoxemia associated with right ventricular cardiac failure and massive congestion of the central lobular areas of the liver.

While minimal in this case, focal fibrosis of portal trinities of the liver is seen in fibrocystic disease of the pancreas. Focal biliary fibrosis is associated with dilatation of small bile ducts and cellular infiltration in the trinities. In the section of gallbladder Aschoff-Pokitansky sinuses are striking, particularly in such a young individual. The sinuses contain thick tenacious mucin, supporting the contention of the abnormality of mucin in fibrocystic disease or mucoviscidosis.

Such changes are, in this case as in most examples of this condition, not limited to the epithelium of the pancreas. The section of small intestine shows swollen goblet cells which contain and are distended by mucin. The section of the skin shows prominent sweat glands. The section of pancreas contains abundant fibrous connective tissue. There is dilatation of ductules and acini and abundant thick tenacious mucin. The plugging of ductules by the thick mucin results in dilatation of the ductules and acini. Atrophy of acinar tissue results, as well as fibrosis.

Correlation

Fibrocystic disease of the pancreas is a hereditary condition which uniformly has had a bad prognosis. It was first described in 1924 by Hadfield and Clarke in England, but did not reach clinical significance until 1938 when Dorothy Andersen gave the classical description of 49 cases.

A recent survey by di Sant'-Agnese indicated an incidence of 2 cases of fibrocystic disease per 1,000 live births. Of 379 cases, only two were Negroes. There has not been a substantiated case reported in a Mongolian. The disease is known to be familial and is thought to be inherited as a Mendelian recessive.

In other words, only the homozygous recessive can exhibit the disease, but heterozygous carriers may show subclinical manifestations, as has been demonstrated by laboratory studies. Similarly, there have been cases with generalized involvement of mucous glands noted at autopsy where there had been no preceding symptoms. It is estimated that 2 to 18 percent of the general population who carry the recessive gene of this disease do not show symptoms.

Glands

The basic defect is a generalized abnormality of the physiochemistry of most, if not all, of the exocrine glands of the body. Although the glands themselves are not originally morphologically involved, their secretions are altered, giving rise to secondary changes which produce

the symptoms of the disease. Mucin-producing glands are the most strikingly involved. It is thought that the carbohydrate portion of the mucoprotein is altered, giving rise to an unusually sticky, tenacious material of low water solubility, which clings to the walls of the involved glands and ducts.

So while the basic defect is the production of abnormal secretion, it is the intraluminal obstruction caused by these altered secretions which causes most of the clinical symptoms. The onset of clinical symptoms and the prognosis are determined by the location and extent of the obstructive processes.

The major areas of involvement are the pancreas, liver, gastrointestinal tract, lungs, and sweat glands. The severity of involvement of any one area varies from patient to patient. Why some children show primarily a pancreatic defect and why others show primarily pulmonary involvement is unknown. It is now assumed that the variety of response occurs as a varied expression of the unknown basic defect, and the involvement of the different areas occurs independently.

In contrast to celiac disease, fibrocystic disease is usually manifested in the first few months of life. In a study reported by Charles May, 63 percent of the patients showed symptoms at or shortly after birth, and 86 percent showed symptoms before the age of 3 months. Chronic fibrocystic disease accounted for virtually all pancreatic insufficiency in children, according to the di Sant' Agnese study reported earlier. Involvement of the pancreatic ducts with obstruction gives rise to the symptoms which are classical in this disease. However, it is now known that 10 percent of the patients show no evidence of pancreatic involvement.

Secretion Retention

Obstruction of the pancreatic ducts results in retention of pancreatic secretions and cystic dilatations of the ducts and acini with atrophy and fibrosis of the exocrine portion of the gland, but without involvement of the islets of Langerhans. The symptoms arise because pan-

creatic lipase, amylase, and trypsin are prevented from entering the duodenum, with a resultant decrease in digestion and absorption of proteins, fat, and complex carbohydrates. As a result, fats, proteins, carbohydrates, and fat-soluble vitamins may not be utilized; as much as 50 percent of the protein may pass undigested through the gastrointestinal tract and be lost in stools, which become mushy, bulky, greasy, and foul-smelling.

It is necessary to emphasize the word bulky because with proper regulation of diet and low fat intake the stools may not be frothy or mushy. In other words, the examination of one stool may appear normal, although the total daily output may be massive. As a result of the decreased absorption of fats, proteins, and carbohydrates, the symptoms of pancreatic involvement are profound malnutrition, avitaminosis, and retardation of growth and development.

Vitamin A deficiency gives rise to xerophthalmia and hyperkeratosis. Vitamin D deficiency results in rickets. Originally it was thought that rickets was very common in this condition; however, the di Sant' Agnese study showed that rickets rarely occurs in this disease. Vitamin K deficiency may result with a decrease in prothrombin levels and a bleeding tendency.

The children develop ravenous appetites as a compensatory mechanism. This may be the chief complaint when the parents consult a physician with such children. If the diet is restricted or an intercurrent infection causes a decrease in appetite, profound malnutrition may result. Thus, the most important symptoms of pancreatic involvement are: abnormal stools, malnutrition, retardation of growth and development, and excess appetite.

Obstruction

It recently has been shown that necropsies on many of these patients show areas of biliary obstruction with focal biliary fibrosis, due to obstruction of the radicles of the biliary tree by inspissated mucin. In most instances the change is not severe enough to produce symptoms.

However, in about 2 percent of the cases there is progression of the obstruction to fibrosis and development of multilobular biliary cirrhosis.

With resultant portal hypertension there are hepatosplenomegaly, hypersplenism, bleeding tendencies due to inadequate platelets and esophageal varices, ascites, and abnormal liver function tests. Icterus is usually absent or minimal. Multilobular biliary cirrhosis is said to account for one-third of the examples of portal hypertension seen in childhood.

Ten to 15 percent of children with fibrocytic disease of the pancreas present with meconium ileus and obstruction of the small intestine at or shortly after birth. There are two possible explanations for the phenomenon: (1) with decreased pancreatic trypsin the normal meconium is not liquified (2) the abnormally sticky intestinal secretions may result in increased tenacity of the meconium and intestinal obstruction. Occasionally this may result in volvulus of the small intestine or the bowel may perforate and meconium peritonitis result. The condition may be fatal without surgical intervention. Fifty percent of the patients with meconium ileus are salvaged by surgical intervention. It is noteworthy that meconium ileus is not necessarily the sign of unusually severe disease.

Pneumonitis

Following successful surgical intervention the child may follow the normal course of the disease, developing pancreatic, pulmonary, and sweat gland involvement. At some time during the course of the disease virtually all patients show some degree of pulmonary involvement, with the onset usually occurring in infancy or early childhood.

Ninety percent of the patients with fibrocytic disease die with chronic pneumonitis. The intrabronchial secretions are thick and tenacious. The child develops a dry, hacking, nonproductive cough, usually within the first 3 months of life. Intercurrent infection may cause an increase in secretions which, due to their tenacity, cannot be removed adequately. This results in bronchial and bronchiolar ob-

struction with multiple areas of localized infection.

Eventually, generalized bilateral obstructive emphysema, and chronic peribronchiolar pneumonia result, leading to respiratory distress, anoxia, CO₂ retention, and air hunger. Terminally, there may be septicemia, fatal lung abscesses, cor pulmonale with heart failure, massive lobar atelectasis, sudden asphyxia, or chronic pulmonary insufficiency. Hence the death is anoxic in type. The predominating organism in the lungs is *Staphylococcus aureus*. With the advent of antibiotics, candida, pseudomonas, and proteus are often found.

In all of the organs mentioned—the pancreas, gastrointestinal tract, and lungs — the disease process is the result of intraluminal obstruction of mucous glands and ducts. Fibrocystic disease manifests itself in a different way in the sweat and salivary glands.

Electrolytes

The secretions of sweat and salivary glands are not abnormally sticky and do not obstruct the ducts, but do contain a high concentration of electrolytes. The sweat of normal children contains 4 to 60 meq. of chloride, and that of children with fibrocystic disease has as much as 160 meq. Similarly, sodium is increased from a normal level of 10 to 80 meq. to 80 to 190 meq.

Less than 1 percent of the patients with fibrocystic disease have normal levels of sweat electrolytes. Thus, determination of sweat electrolytes has become a more important determination than has the determination of duodenal trypsin content in the diagnosis of fibrocystic disease of the pancreas. Twenty percent of asymptomatic relatives of the children with fibrocystic disease have increased sweat electrolytes. The patients with fibrocystic disease who have sweat gland involvement lose sodium chloride and in hot weather have heat exhaustion, vomit, are dehydrated, and show hyperpyrexia. Cardiovascular collapse, coma, and death may result. Both sweat and salivary gland secretions are increased.

The case presented is a classical example of

fibrocystic disease. The pancreatic, pulmonary, and sweat gland involvement was typical. She developed steatorrhea, obstructive emphysema, and died with severe pulmonary inflammation complicated by pseudomonas and staphylococcus infection. She developed clubbing of the digits, cor pulmonale, malnutrition, absence of trypsin in the stools, and sweat chloride concentration of 124 meq.

Recessive

Since fibrocystic disease is inherited as a Mendelian recessive, one-fourth of the siblings of children with the disease may have the disease. In other words, the chance of having a sibling with the disease is 1 in 4. It is very important to differentiate fibrocystic disease from celiac disease, as the prognosis in the two conditions is so different. In either disease the patient may show steatorrhea, malnutrition, and retardation of growth and development. However, 86 percent of children with fibrocystic disease develop symptoms prior to 3 months of age and celiac disease in a child under 6 months of age has not been reported. Similarly, the children with fibrocystic disease have ravenous appetites; those with celiac disease usually have decreased appetites.

Therapy

The therapeutic approaches follow: (1) treatment of the pulmonary infection with antibiotics, croupettes, and postural drainage (2) surgical intervention for meconium ileus and portal hypertension (3) cardiac medications for cor pulmonale (4) salt and electrolyte therapy for salt depletion and heat exhaustion (5) diet regulation for malnutrition.

There is some debate about the amount of fat that should be given to these children. At the University of Michigan Hospital, I believe, the program is a low fat, high carbohydrate, high protein, and high caloric diet. Artificial trypsin is added to increase the digestion of protein, and carbohydrates are given as simple sugars.

It is important to give fat-soluble vitamins in water-miscible solutions.

It is noteworthy that the lay press commented upon the importance of fibrocystic disease, as indicated in a recent release: "Only in fairly recent years have such deadly enemies as polio and leukemia been given general public recognition. And now a crusade is under way against another stealthy slaughterer, which in the last few months has come under the spotlight of public scrutiny. The disease is cystic fibrosis."

Low-Fat Diet

PEDIATRICIAN: This small, underweight child had a voracious appetite and did, indeed, eat lots of food, but most of it passed through the intestines undigested. Instead of losing the usual 10 percent of the calories which went through the digestive tract, she probably lost 50-60 percent or more.

The matter of the low-fat diet also should be commented upon. Since bile production is impaired and if the liver is involved, a high-fat diet would result in unsplit fat going through the gastrointestinal tract. I think that the use of a normal or a low-fat diet is indicated, one which does not cause the child to be on an unacceptable diet which she may not eat. You don't need to worry about their appetites.

I was at the Cincinnati meeting when Dorothy Andersen described fibrocystic disease and differentiated it from the other types of chronic intestinal indigestion, particularly celiac disease. She told us that fibrocystic disease, previously called congenital steatorrhea, was a separate condition. It was then thought by Wolbach and Blackfan that the chief dysfunction was congenital steatorrhea and that poor absorption of vitamin A resulted in metaplasia of the mucous membranes of the bronchi which were then occluded with mucin and became infected.

Their explanation did not happen to have exactly the right basis, although the sequence of events is the same. Indigestion is only a part and ordinarily not a very important part of this disease. I remember some years ago in one of his papers, Doctor May said, in essence: "As the lungs go, so goes the patient."

In other words, if the patient has little pulmonary involvement, he will do all right. That has been our experience here. We have had patients with cystic disease of the pancreas who have had several years of very good health, and that has been during the time in which their pulmonary disease was in remission or in almost complete abeyance.

Variations

When the pulmonary phase of the disease became more prominent, the patient again began to lose weight and to go downhill. It has been thought, of course, that fibrocystic disease is a uniformly fatal disease. Now we begin to realize that there are many variations in the manifestations of this disease and also that there are probably persons who have part of the picture but may not have the deadly part of the disease. So we will have to revise our thinking, it now seems, by virtue of tests of sodium and chloride in the sweat when applied to other members of the family of a patient with this disease. We are recognizing patients in the third decade who have this disease in a much milder form than did this little girl.

The matter of inheritance must be discussed. This was an only child and the parents are young. This family had undoubtedly asked us about this problem. I hope that they had, and that we advised them. As you have been told, the disease is inherited as a recessive and is likely to affect one child in four born to a couple. But, of course, that ratio would hold only if they had many children, so when you advise people you must tell them that statistically there also is the possibility that the disease might involve the first three of twelve children.

Do not let them conclude that because they have had one child with fibrocystic disease that the next three children will be normal. It has happened once in this hospital to people who were seen in the department of Pediatrics and in the Heredity Clinic, and when the mother came back with the second child affected with the disease she cried out in

anguish: "You told me only one in four!" So we obviously did not make the point clear. We have one family who had four of five children with cystic fibrosis of the pancreas.

Pathological Diagnosis

Fibrocystic disease of the pancreas (mucoviscidosis). Acute mucopurulent exacerbation of chronic bronchiolitis and bronchitis with bronchiolectasis and bronchiectasis. Bilateral

pulmonary emphysema and patchy atelectasis. Pulmonary osteoarthropathy. Cor pulmonale. Chronic cholecystitis. Acute purulent exacerbation of chronic fibrosing pancreatitis. Centrolobular lipidosis of the liver. Early rickets (?). Acute cerebral congestion and edema. Lymphoid exhaustion in the thymus, spleen, and lymph nodes. Abundant adrenocortical lipids. Emaciation. Persistence of fetal fat. Slight serous atrophy of adipose tissue.



BENIGN HYPERTENSION

"Among a highly selected group of persons with mild or moderate arterial hypertension, but otherwise in good health, there is no evidence that lability of the blood pressure was a significant factor in the moderately increased mortality experienced. Thus, the observed fluctuations in blood pressure did not indicate that the life span in these persons would be greater than that of persons with constantly observed hypertension. Therefore, it would seem proper to include a proportionate number of elevated readings with normal ones in the determination of the average blood pressure for an individual person."

"These data also support the generally accepted conclusion that the significance of hypertension becomes less important as the age of the person advances."

"Finally, the results of this study suggest the desirability for early recognition of temporary elevations in blood pressure and their importance to otherwise healthy persons."

ALBERT A. POLLACK, M.D. AND JAMES R. GUDGER, M.D.

Arch. of Int. Med. (1959) Vol. 103, No. 5, Pp. 101, 761

Contusions and Lacerations

Because the external ear (auricle, pinna) is a semi-mobile appendage in an exposed position on the side of the head, it is frequently injured, either alone or along with other portions of the face and neck. And because of this exposed position, deformity or absence of the auricle is quite apparent, and is cosmetically undesirable, especially in men who cannot use long hair as a camouflage. Many deformities can be prevented by careful treatment administered soon after the injury.

Anatomy

The support of the auricle is provided by thin but springy fibrocartilage which is formed in ridges and hollows as shown in Figure 1. On its outer (or lateral) surface the cartilage is covered with rather thin skin to which it is quite firmly attached. Its medial (or inner) surface facing the side of the head is covered with slightly thicker skin and a thin layer of subcutaneous fat. The lobule of the ear is composed of skin and fat without cartilaginous support.

The auricle's blood supply is very rich and is derived from the external carotid artery via branches of the superficial temporal and posterior auricular arteries. The veins drain into the external jugular vein via the superficial temporal vein. The lymphatics run to the mastoid tip and pierce the sternocleidomastoid muscle to join the deep cervical chain. The sensory nerves are abundant and are branches of the greater auricular and small occipital nerves from the cervical plexus, the auriculotemporal branch of the mandibular nerve, and the auricular branch of the vagus. The facial nerve supplies the muscles which move the auricle voluntarily.

The function of the auricle is to collect sound waves and direct them into the external auditory canal. The tragus also serves to protect the external auditory meatus from the entry of cold air and foreign bodies. The external auditory canal, while strictly a part of the external ear complex, will not be included in this discussion, since it is rarely contused or lacerated.

Contusions

A forceful blow which smashes the ear against the side of the head often results in a rupture of one or more blood vessels in the skin or subcutaneous tissue. The resulting hematoma dissects a pocket between the skin and the cartilage. Examination reveals ecchymosis and a fluctuant swelling of the ear, especially over the outer aspect. If the blood is not removed it becomes organized. Organiza-

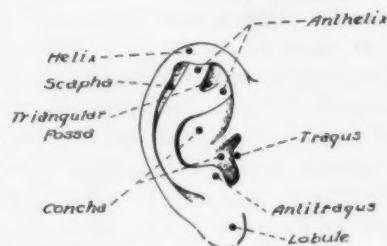


FIGURE 1 The auricle (or pinna).

of the Ear



FIGURE 2 Hematoma of the ear.
Incisions represent points of drainage of blood that is too viscous to permit needle aspiration.

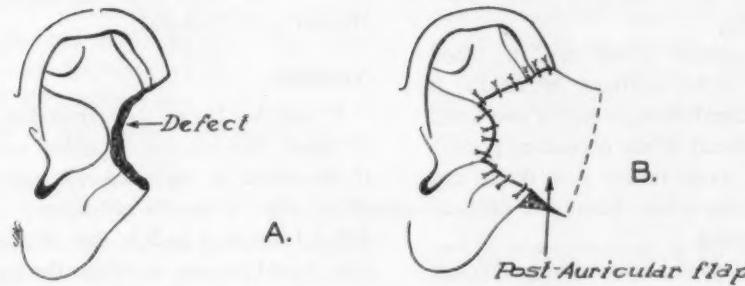


FIGURE 3 The use of a post-auricular flap of skin for reconstruction of full thickness defect of the ear.

tion of recurrent hematomas results in a thick fibrous mass which distorts the contour and produces the "cauliflower ear" for which pugilists are noted.

Treatment of the hematoma should be directed toward aspiration of the blood as soon as possible by means of a syringe and a large bore (#15) needle introduced under local anesthesia with the strictest aseptic precautions. A pressure dressing with moist cotton or sea-sponge molded into the normal hollows of the ear will prevent reaccumulation of the blood. Frequently, an additional moist cotton sponge placed between the ear and skull will afford further pressure for hemostasis. It is held in place by an elastic bandage wrapped around the head. The dressing should be left on for two days, removed to permit a check on the circulation in the skin, and then reapplied for another four days.

If when the patient is first seen, the blood is too viscous to be aspirated by needle, it should be evacuated through one or two small skin incisions placed in the dependent portion of the scapha. Small rubber dam drains can be placed for twenty-four hours. A pressure dressing is indicated.

The treatment of the established cauliflower ear consists of excision of the dense, often calcified, fibrous mass. This is best done in two stages, so that the skin of the entire outer surface of the ear is not elevated at one time. This procedure is strictly elective and should not be attempted in the office.

Lacerations

The principles of treatment of lacerations of the ear are essentially the same as those for lacerations of other portions of the face. Gentle but thorough cleansing of the injured tissue with soap and water is recommended. Irrigations with sterile saline should be used instead of washing with antiseptic solutions which may damage tissues further. A pledge of cotton placed in the external auditory meatus will prevent the fluid from running into the canal.

Debridement of obviously devitalized ragged

tissues should be carried out, but the rich vascularization of the ear permits the preservation of tissue of apparently questionable viability. Careful hemostasis, using small mosquito clamps and fine (#5-0) plain catgut ligatures, is mandatory.

Lacerations of the ear frequently involve all layers. Careful approximation of the lateral and medial layers of skin should be done with small sutures of fine material—#5-0 or 6-0 silk or nylon. It is usually unnecessary to suture the cartilage. Half the sutures can be removed on the third day, the remainder on the fifth day. A pressure dressing as described above is desirable.

When treating auricular lacerations any blood in the external auditory canal should be removed and the ear drum inspected to make sure that the blood is not coming from within (basilar skull fracture).

Avulsions

If there has been a through-and-through loss of tissue, two courses of action are possible. If the defect is small, careful approximation of the edges is usually satisfactory. But if the defect is large, a pedicle flap of postauricular skin should be used to bridge the gap. A flap of the required size is first mapped out on the post-auricular skin. After the flap has been raised, the edges of the skin of the medial surface of the ear are sutured to the edges of the donor bed. The edges of the flap are sutured to the edges of the outer (or lateral) skin of the ear. In this way no open wound is left. A snug but not tight dressing is applied. After about ten to fourteen days the base of the flap can be cut loose from the side of the head and folded to form the edge of the helix and the medial skin. The scalp defect is closed by a split skin graft or by advancement of local tissue. If the defect in the cartilage is large, it may be advisable to bridge the gap with a free cartilage graft. This should be inserted under the flap before its base is severed. Detachment of the flap from the scalp should then be delayed for about three months to allow the cartilage to gain a healthy attach-

ment to the subcutaneous tissues so that it can be transferred to the ear along with the skin flap. The grafting of cartilage and the division of the flap are later reconstructive stages and not emergency procedures. They should be done in the hospital preferably by a plastic surgeon.

If only the skin of the ear has been lost, the defect can be covered with a free split skin graft if perichondrium covers the exposed cartilage. If the cartilage is completely bare, a free graft is not satisfactory and a post-auricular pedicle flap is required for coverage.

Occasionally, one sees an ear or a part of an ear that has been almost completely detached. In this situation, it is advisable to cleanse the wound very cautiously being careful not to injure the tissues of attachment and then carefully suture the ear back in its normal position. The rich vascular anastomoses in the ear often permit it to survive when only a very small point of attachment remains. The preservation of all possible tissue is at least worth a try, since it may obviate a complex recon-

structive procedure. It is even worthwhile to carefully reattach totally detached portions of the ear if they are clean and not badly traumatized. They may fail to survive but the result is often surprisingly gratifying. The ear in these cases should be left open to the air, protected by a box surrounding it, and cooled by a fan to lower its metabolic requirements. Priscoline may help in opening up existing vascular channels.

Probably the most important principle in the treatment of auricular injuries is the prevention of infection. This involves gentle but thorough cleansing, sacrifice of hopelessly traumatized tissues and creation of a closed wound. Cartilage must be covered promptly or chondritis may result. Because cartilage has no blood supply it cannot withstand exposure and the infection which follows. Chondritis of the ear is a very stubborn condition which may result in extensive losses of cartilage.

Antibiotics (Penicillin and Streptomycin) and tetanus immunization are indicated prophylactically for severe open injuries to the ear.

Summary

1. Hematomas of the ear are best treated by prompt removal of the blood by aspiration or incision and drainage. A carefully fitted pressure dressing will prevent reaccumulation.

2. Lacerations of the ear without loss of tissue are treated by ordinary wound care and

careful approximation of the edges with fine suture material.

3. Injuries to the ear with loss of tissue call for replacement by means of free skin grafts or pedicle tissue.

4. Proper early care of auricular injuries often prevents unsightly deformities.



WHAT'S YOUR VERDICT?

In this issue and every issue, *Medical Times* presents authentic medico-legal cases and their interesting court decisions. Test your medical magistracy.

SEE PAGE 47a



MEDICAL JURISPRUDENCE

Are Your Bed Rails Up or Down?

GEORGE ALEXANDER FRIEDMAN, M.D., LL.B. LL.M.
New York, New York

A survey by the American Medical Association¹ showed that alleged injuries from falling out of bed constituted the bulk of suits contending malpractice against hospitals today, and that the majority of these actions are brought in New York and California, with the District of Columbia a close third.

The nurse's chart may read: "patient's general condition improving—patient rolled out of bed—hip broken." Though most patients who fall out of bed are not injured, a considerable number are involved in such accidents each year.

The California Hospital Association became concerned with this problem as the number of actions brought against their 400 member hospitals increased sharply in the past ten years. Their study² revealed that almost 40 percent of legal actions filed against hospitals involved injuries which the patient suffered "rolling out" of a bed that had no rail. They recommended that their member hospitals equip all hospital beds with guard rails. Com-

plying hospitals have enjoyed a 60 to 70 percent drop in suits filed alleging injuries from falls, when bed rails are up.

This article is concerned with the type of actions brought by people falling out of bed, the ensuing liability, and the type of bed fall found to constitute negligence.

Liability When a Doctor Orders Bed Rails

The act of a doctor ordering guard rails for a patient's bed in a particular instance is considered in law to be a medical act. Such medical act, accompanied by a direction for their attachment, is usually necessary in order to render the hospital liable for injuries or death caused by a defective bed which is not thus equipped.

In a leading New York case,³ a patient who was recovering from a gall bladder operation and attended by a private nurse hired by the patient, became restless. The intern on the hospital staff ordered guard rails for her bed. They were not installed. Thereafter, the patient fell out of bed, suffering severe injury and trauma. The trial court found the defendant hospital not liable because the patient's doctor had not ordered side rails and because she was attended by a private nurse. The court,

upon appeal, reversed this decision and directed a new trial for the plaintiff. They stated that the decision whether side boards should be installed to prevent a patient from falling from a hospital bed is a medical act, and such medical act creates an absolute duty binding the defendant hospital. The intern, employed by the hospital, left explicit orders for side rails. Failure by hospital personnel to effect his orders rendered the hospital responsible for the injury. The fact that she had a private nurse was not held to affect the hospital's administrative duty when a physician left instructions which could be implemented solely by hospital staff. Thus, if a physician orders guard rails and leaves written, or, in some instances even oral, instructions that bed rails be installed, this medical act implies an administrative responsibility on the part of the hospital.⁴ A hospital will be held responsible for the failure of its employees to carry out this administrative act, and if the patient is injured by such fall, the doctor will be exonerated from any liability.⁵ Frequently, the determination of liability will depend upon a jury finding as to whether the evidence, in a particular case, proves that the doctor did or did not order bed rails.

Hospital Usually Not Liable

Generally, in the absence of special circumstances, and/or an order from a doctor, a hospital is not liable for the failure to provide bed rails for the average patient. The courts have said, "where the doctor did not direct bed rails to be used because he did not think they were necessary, a hospital could not be convicted of negligence in failing to use such rails in the absence of the showing of duty requiring it to do so."⁶

Hospital Sometimes Liable

Courts differ as to what set of facts, without a doctor's order, would impose an administrative duty upon a hospital and its staff to provide bed rails or a proper bed.

A survey of cases involving this question appears, however, to be uniform when dealing

with a patient after surgery, under the effects of an anesthesia, or under the influence of narcotics, or in labor. In a leading case⁷ discussing the degree of care required, and whether any ordinary person under such circumstances should reasonably know, without specific doctor's orders, to apply bed rails, the court said, "The need for the attachment of side boards to a bed for the protection of a patient recovering from an anesthetic following an operation does not require professional judgment. It is a manual or physical act which could be performed by anyone in the hospital employ." So when a woman in an advanced stage of labor, left in the labor room unattended in a bed, without guard rails, fell and sustained injuries, the Court⁸ in finding for the claimant said, "it was within the scope of reasonable anticipation of defendant hospital, through its servants, to have guarded against this mishap which occurred to the extent of at least furnishing a bed with side boards." The negligence, as found by the jury, was of an administrative nature in that the servant of the defendant assigned to the plaintiff a particular bed for occupancy, which defendant should have reasonably known was not adequate."

Hospitals Sometimes Exonerated

However, the cases held that the above duties assumed by a hospital in the absence of a doctor's order are not absolute. All that is necessary is the exercise of reasonable care and caution. It is obvious that in such extreme cases as discussed above, reasonable care would require the placing of guard rails to prevent a fall. The courts have held that when a patient becomes quiet and improves, sound judgment dictates that rails be removed, and a patient's subsequent fall from the bed does not render the hospital liable.⁹

In one leading case, in which the hospital was exonerated from liability where side rails had not been installed on the claimant's bed, the court said the fact that a person is seriously ill does not in itself render the use of side boards necessary or advisable.¹⁰ In that case, the patient in the final stages of multiple

myeloma, a bone malignancy, was given an enema by a nurse and placed on her left side. The nurse and an attendant stood near the bed, but the patient rolled and fell from the bed suffering a fracture of the right scapula. The court found no negligence in failing to use bed rails since the patient had been quiet and no doctor had seen fit to order them.

However, as stated before, when a patient is left unattended on an examining table in situations where side rails are usually installed as a matter of hospital routine, but are not installed, the patient's falling will render the hospital liable.¹¹

Hospital Liable for Negligence of Nurse

In dealing with the liability of doctors and nurses in bed rail cases, the hospital is always held responsible for the negligent acts of its employees, and the doctrine of respondeat superior (master responsible for acts of servant) applied. In one case, a hospital was still liable, even though the patient had a private duty nurse employed by the patient.¹²

In one leading case¹³ a paying patient was admitted for surgery and soon after admission, fell out of the hospital bed. No side rails were installed and the patient again fell out, sustaining further injuries. The court in finding the hospital liable, said the doctrine of respondeat superior applied to charitable hospitals.

In the case of *Terrill v. Cockrill*,¹⁴ an action brought solely against a doctor employed by the hospital as a part-time administrator, was dismissed. The court stated that the "duty of the hospital or its management, which included the defendant, to maintain a condition of safety for the plaintiff during the period of her sedation included the duty of raising the guard rails on her bed and that the hospital was responsible for the acts of its employees. In that case, suit was brought against the doctor who, as a part-time administrator of the hospital, had not taken personal care of the plaintiff. The case was sent back for new trial with the hospital named as defendant.

In bed rail accidents, the nurse is held to a standard of reasonable care. The hospital is

liable for its nurses' negligence in performing administrative acts which, though part of a patient's prescribed medical treatment, do not require application of specialized technique or understanding of a skilled physician or surgeon.¹⁵

Res Ipsa Loquitur Not Applied

It is obvious from the above that the hospital is the party most often sued in bed rail cases. However, as a mitigating circumstance, the hospital is held only to standards of reasonable care and the mere fact that a patient fell out of bed and was injured, does not necessarily render the hospital liable.

The rule of evidence, sometimes applied in malpractice cases against doctors, of *res ipsa loquitur* (the act speaks for itself) is not applied in bed rail cases. One of the most discussed bed rail decisions held that the doctrine of *res ipsa loquitur* did not apply (*St. Luke's Hospital Association v. Long*).¹⁶ In that tragic case, a three-year-old patient was admitted for a tonsillectomy. The mother informed the floor nurse that her child, who was placed in an average size hospital bed, usually slept only in a crib at home and was a restless sleeper. The side rails were then attached to the bed. During the course of the night, the attendant nurse checked hourly and discovered that sometime between 4:00 and 5:00 A.M. the child's head had become wedged between the side rail, causing death by strangulation. The court reversed a lower court judgment for the child's parents, based on the doctrine of *res ipsa loquitur*, and remanded the case for a new trial, saying, "that as a matter of law the evidence was not sufficient to establish the negligence of the hospital as found by that jury and that whether the hospital, through its agent, was sufficiently advised as to the size of the patient to be placed on the bed, or whether the responsibility for use of the bed was assumed by the physician in charge, was a question for the jury, as were also the question of placing such a small child in such a bed, and whether more nursing attention could have prevented the accident."

Rule of Contributory Negligence

Furthermore, most cases require that the plaintiff be free from contributory negligence, that the claimant prove the hospital has not exercised standards of reasonable care and that the alleged injury resulted from the bed fall. Thus, in one case involving a child who fell out of bed and later became blind, the court found the hospital blameless, since there was no causal relationship between the fall, after a tonsillectomy, and the blindness.¹⁷ In another case,¹⁸ though the patient was seriously ill, the record did not indicate any prior restlessness that would have suggested the need for bed rails, and the court said the "fact that side boards would have prevented the fall of decedent is not proof of lack of care on the part of the hospital, since there was no evidence that their use was indicated by any of the doctors or nurses in constant attendance of her."

In another case, the court reminded the question of contributory negligence of the claimant to the jury.¹⁹ The patient, admitted

for surgery to have cataracts removed from her eyes, fell in her hospital room at night. There was evidence that she could still see, had been told how to ring for a nurse, or turn on a light, but had done neither of these in attempting to leave her hospital bed. A patient²⁰ who was hospitalized for a slight stroke that affected only her facial muscle, fell out of bed (without guard rails) attempting to comply with nurse's instructions to wash herself in a basin, placed near her bed, and she fractured her hip. The court found that the plaintiff did not prove that the hospital or the nurse failed to meet the standard of ordinary care and attention required under the circumstances. The court said, "evidence produced showed that the bed in which she was confined was not equipped with bed rails at any time prior to her accident. This in itself is not proof of negligence. There must be proof that the patient was in a helpless condition which was known to the hospital and that reasonable care under such circumstances required the installation of bed rails."

Summary

1. Hospital patients falling out of bed, and their consequent injuries account for about forty percent of all malpractice actions brought against hospitals and nurses.

2. The California Hospital Association, after an extensive study, recommended to its four hundred member hospitals that bed rails be installed on all hospital beds. Complying hospitals have reduced such claims by sixty to seventy percent.

3. A hospital, and/or the nurse, is liable for the failure of bed rails only when the installation of the rails is considered to be an administrative rather than a medical act; failure to follow a physician's order (a medical act) that bed rails be installed, renders the hospital liable.

4. Failure by hospital personnel to install bed rails, under certain conditions, such as after surgery, or when a patient is receiving narcotics, or is still under the influence of

anesthesia, or in labor, is considered by the courts to be an administrative act, and the hospital is liable for injuries sustained by the patient in falling out of bed, even if the physician omitted to order bed rails.

In other circumstances whether or not it was reasonable and standard medical or hospital practice for bed rails to be supplied, under a given set of circumstances, is in most jurisdictions a question of fact for the jury to resolve.

5. A hospital is liable for the administrative actions of nurses and orderlies in their employ. The courts have, in bed rail cases, quite uniformly applied the legal rule of respondeat superior (master responsible for acts of servant), and hold hospitals responsible for the failure of nurses in their employ to provide adequate bed protection.

6. A nurse, who is employed by the patient and paid by him, is, in most instances, con-

sidered to be an independent contractor, but in bed rail cases, hospitals have still been held responsible for the failure to supply bed rails.

7. The supervising nurses and the floor nurses have been held liable for failure to supply bed rails, or for the actions of volunteers or orderlies to whom they delegated their responsibilities, and whose work they directed.

8. The doctrine of *res ipsa loquitur* (the act speaks for itself) does not generally apply to bed rail cases.

9. The doctrine of contributory negligence, requiring proof that the injured party did not by his own actions cause the injury is applicable to bed rail cases.

10. The plaintiff (the injured, or some person legally qualified to sue on his behalf) must prove, in the trial of the case, that it was reasonable and prudent to assume that the injury caused by the fall from a hospital bed, was due to the hospital, nurse's, or doctor's negligence and that if bed rails had been installed, the injury would not have occurred.

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133 East 58th Street



WHAT'S THE DOCTOR'S NAME

Identify this famous physician from clues in the brief biography.

PAGE 73a



EDITORIALS

PERRIN H. LONG, M.D.



SOCIALISTIC VERSUS SOCIALIZED MEDICINE

Some time ago your Editor was discussing this and that with the Business Manager of MEDICAL TIMES, when the latter said, "Yesterday I read the guest editorial* sent in by Dr. Anderson of Casper, Wyoming, and I think his use of the phrase 'socialistic medicine' rather than 'socialized medicine' is one which would more likely make people pause for thought, when governmental activities in the practice of medicine are being discussed."

Your Editor, in reply, inferred that he did not think that most people would feel that the connotation of the word *socialistic* was politically different from that of *socialized*. A little later he picked up his *Fifth Edition of Webster's Collegiate Dictionary* (G. & C. Merriam, Springfield, Mass., 1938) to look up the meaning of the two words and this is what he found:

1. "Socialism. *A political and economic theory of social organization based on collective or governmental ownership and democratic management of essential means for production and distribution of goods; also, a policy or practice based on this theory.*"
2. "Socialistic. *Of, pertaining to, or based on socialism, favoring socialism.*"
3. "Socialize . . . *To render social; especially, to train for social environment. . . . To adapt to social needs or uses. . . . To render socialistic, to regulate by the theories or practices of socialism; as, to socialize industries. . . .*"

After going over these definitions, it did not appear to the Editor that there was much difference in the meaning of the two words and he so stated. The upshot of the discussion was a decision to take an opinion poll in New York City in an attempt to see if people in general had a difference in their understanding of the meaning of the two words. It was decided that the test would revolve around

* "The Socialists Are Still With Us," Medical Times, Vol. 88, No. 4, April 1960.

the questions, "Congress should pass (1) *Socialized Medicine*, (2) *Socialistic Medicine*."

It was planned that two areas would be used, Madison Avenue at 54th Street (white-collar class), and Fourteenth Street and Union Square (blue-collar class). The poll was taken and the results are really interesting and of definite significance. We will quote the report verbatim.

"The test, conducted on June 22, 1960 utilized a team of two women stationed first at 54th Street and Madison Avenue (resulting in 195 interviews) and then at 14th Street and Union Square (resulting in 151 interviews).

The time period at each area was approximately the same (100 minutes), so that the difference in the rate of response may be credited to the reluctance of the Union Square people to answer the question. The women noted that those on Madison Avenue who responded to the question showed a greater degree of interest, spending more time in their thoughts and seeking to justify their answers by offering detailed reasons. However, their reasons were not recorded, and the net result was a "yes" or "no."

The table shown below represents the full results of the study.

Now, even if these findings apply only to the New York City metropolitan area (which contains roughly ten percent of our population) they represent an urban point of view, hence

population-wise possibly a very significant one. It would appear:

1. That more than half of the individuals interviewed in both areas believed that Congress should pass "*socialized medicine*." The importance in this finding is that the people interviewed at the corner of Madison Avenue and 54th Street (members of the middle and upper economic groups) held this view. One can therefore ask, "Might not the pressures which are mounting in Congress for a national health service represent a popular movement, rather than being the result of activities of vocal minority groups? Furthermore, does this response represent a failure of organized medicine and its supporters to instruct the public adequately in the major fallacies of *socialistic medicine*?"
2. That the adjective "*socialistic*" has an entirely different connotation than the adjective "*socialized*" both on Madison Avenue and in Union Square.
3. Quite extraordinary that about one-third of those interviewed on Madison Avenue believed "Congress should pass *socialistic medicine*."
4. That the term "*socialized medicine*" should be abandoned, and the term "*socialistic medicine*" used in all educa-

	<i>Socialized Medicine</i>	<i>Socialistic Medicine</i>
<i>Congress should pass</i>	51.2%	32.4%
<i>Congress should not pass</i>	48.8	67.6

Responses from Madison Avenue to:
Socialized Medicine Socialistic Medicine

Responses from Union Square to:
Socialized Medicine Socialistic Medicine

	<i>Socialized Medicine</i>	<i>Socialistic Medicine</i>
<i>Congress should pass</i>	50.9%	35.7%
<i>Congress should not pass</i>	49.1	64.3

Responses from both areas to:
Socialized Medicine Socialistic Medicine

tional material as the terms seem to have different meanings to the laity.

MEDICAL TIMES believes that time is short if governmental control of the private practice of medicine is to be avoided. We have today patterns of governmental control in the extra-mural medical care of veterans and the Medi-

care program for the dependents of the military. Then there are the maternal and child health programs. Many qualified physicians feel that if Kennedy is elected President, the Forand Bill will probably be passed. What's next? Why National Health Insurance, to be sure.



THE SYSTEMIC VENOUS SYSTEM IN CARDIAC FAILURE

"The venous system functions in cardiac failure both actively and passively. In acute failure, circulatory reflexes elicit widespread increase in venomotor tone within a matter of seconds. This in turn elevates the venous pressure gradient which helps to maintain adequate cardiac output despite the weakened heart, for even a weakened heart can pump considerably increased quantities of blood when it is primed with sufficient blood. Without this increase in venomotor tone, the heart could incur far less acute damage than it actually does and result in death."

"Immediately after acute weakening of the heart the rise in venous pressure probably is not sufficient to cause a rise in capillary pressure. The reason for this is that acute failure is usually accompanied also by diminished cardiac output and reflex arteriolar constriction, both of which decrease the capillary pressure, opposing the effect of elevated venous pressure. However, the kidney immediately begins to retain fluid, causing among other things considerable elevation of venous pressure, increased cardiac output, and diminished reflex constriction of the arterioles. As these effects occur, the capillary pressure rises to very high values, resulting in edema."

"If the different compensating factors that help to compensate for the failing heart do not return the cardiac output almost to normal, then renal retention of fluid is likely to continue indefinitely, causing progressively more and more edema until the heart itself finally deteriorates either as a result of too much input pressure from the veins or possibly as a result of diminished nutrition caused by edema within the cardiac musculature itself. Unfortunately, the precise nature of this final deterioration is yet very unclear, but treatment aimed at preventing continued fluid retention is often effective also in preventing the cardiac deterioration."

ARTHUR C. GUYTON

J. of Chron. Diseases (1959) Vol. 9, No. 5, P. 474.

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An obstetrical delivery could be had in the home for ten dollars? (Your Editor knew a general practitioner when he was a boy who charged only two dollars and fifty cents for a delivery.)

The dollar would buy about four times what it will at present? If you do, then just remember that in buying power there were pretty good fees listed in this account book.

Patients paid you for the drugs you dispensed and in the cost of the "medicine" the value of your professional fees was included?

Doctors wrote legibly and Medicine was considered a "learned profession?"

Photo: R. H. Fowlkes, M.D.
Bluefield, W. Va.



THE LONG AND SHORT OF IT

From Your Editor's Travels and Reading

Radiation Leukemogenesis

The following conclusions are made:

1. Data are now adequate to indicate that, for high level, single dose exposure of man, the incidence of leukemia is approximately linear with dose. At dose levels of perhaps 100 r equivalent or greater, the incidence is approximately 1 to 2/10⁶ persons at risk/year/rad, at least from approximately the second to the fifteenth year following exposure.
2. Below dose levels of approximately 100 r equivalent, the available data are inadequate for prediction.
3. Data are inadequate for prediction for other than the single acute dose, i.e., it is not known if a dose-rate dependency exists.
4. It is not known if the risk continues beyond approximately the first fifteen years from exposure.
5. Although there is evidence that large dose radiation of sizeable portions of the marrow may be leukemogenic, there are no adequate grounds for assuming that the highly localized radiation from internal emitters such as Sr⁹⁰ and radium are or are not leukemogenic.
6. It is not possible to determine whether or not a threshold dose for the induction of leukemia does or does not exist.

E. P. CRONKITE, M.D., WILLIAM MALONEY, M.D.
and V. P. BOND, M.D., PH.D.
Am. J. of Med. (1960)
Vol. XXVIII, Pp. 673-680.

A Comparison of Chlorothiazide and Hydrochlorothiazide

Hydrochlorothiazide in doses of 50 to 100 mg. daily was added to antihypertensive regimens that had previously proved ineffective. Its antihypertensive activity was compared to that of chlorothiazide in the same patients. Even though the dosage level was approximately one fifteenth that of chlorothiazide, the drug seems to be as potent an antihypertensive. A comparison of the nature, severity and frequency of side effects indicates that it is far better tolerated in most cases. In particular, the freedom from cardiac arrhythmias and from troublesome gastrointestinal distress, in this series, suggests that hydrochlorothiazide may prove a generally more useful drug than chlorothiazide.

RICHARD E. LEE, M.D.,
ARTHUR W. SELIGMAN, M.D.,
MELVA A. CLARK, M.D., and
PATRICIA A. ROUSSEAU
The New Eng. J. of Med. (1960)
Vol. 262, No. 21, Pp. 1066-1068.

Long-Acting Sulphonamides and Protein-Binding

New long-acting sulphonamides, such as sulphaphenylpyrazole and sulphamethoxypridazine, are more extensively bound to plasma-protein than the older sulphonamides, such as sulphadimidine and sulphadiazone.

PRESIDENTIAL STRAW POLL...

The Doctors' Choice

In a nationwide, pre-election poll conducted by Medical Times and Resident Physician, among 7,500 family physicians and 7,500 resident physicians and interns, the Republican Presidential nominee, Richard M. Nixon, led his Democratic opponent, John F. Kennedy, by a wide margin, 2834 to 1066.

Another 229 indicated that they were "undecided."

More than 27 percent of the 15,000 ballots mailed to physicians were returned and recorded. (Every fifth physician on the circulation lists of the two national journals received a ballot.) The combined voting was as follows:

Question: Of the two candidates for the Presidency of the United States, Vice President Nixon and Senator Kennedy, who is your choice at the present time?

NIXON	68.6%
KENNEDY	25.7
UNDECIDED	5.7

Nixon was the overwhelming choice of the Medical Times physicians, whose average age is 48. Nearly 77 percent of these family doctors named the Vice President as their choice. The Resident Physician doctors, averaging 29 years of age, also registered a decisive majority in support of Nixon.

The group breakdowns were:

Medical Times—Family Physicians

NIXON	76.6%
KENNEDY	17.6
UNDECIDED	5.8

Resident Physician—Hospital Doctors

NIXON	60.1%
KENNEDY	34.5
UNDECIDED	5.4

Standard market sampling procedures were employed in the poll. To eliminate the possibility of "position bias," half the ballots carried Vice President Nixon's name on the top and the other half listed Senator Kennedy first. Ballots were mailed on the day following the close of the Republican Convention in July and tabulation was

made from returns received within a two-week period from the mailing date. Physicians were not required to sign or identify in any way their completed ballots. Nixon polled a majority in each of the nine geographical regions of the U.S. The regional breakdown shows Nixon most heavily favored in the Rocky Mountain states, with Kennedy having his strongest appeal among physicians in the New England and Middle Atlantic states.

Regional Vote — Both Journals

	NIXON	KENNEDY	UNDECIDED
NEW ENGLAND Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut	54.3%	41.8	3.9
MIDDLE ATLANTIC New York, New Jersey Pennsylvania	56.4%	36.9	6.7
EAST NO. CENTRAL Ohio, Indiana, Illinois, Michigan, Wisconsin	74.6%	20.8	4.6
WEST NO. CENTRAL Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas	74.0%	21.7	4.3
SOUTH ATLANTIC Delaware, Maryland, Dist. of Columbia, Virginia, West Vir- ginia, North Carolina, South Carolina, Georgia, Florida	63.1%	29.2	7.7
EAST SO. CENTRAL Kentucky, Tennessee, Alabama, Mississippi	75.1%	16.6	8.3
WEST SO. CENTRAL Arkansas, Louisiana, Oklahoma, Texas	78.4%	14.9	6.7
MOUNTAIN Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada	80.0%	18.7	1.3
PACIFIC Alaska, Washington, Oregon, California, Hawaii	78.2%	17.5	4.3

Combined returns of Medical Times and Resident Physician doctors in the six key states (in terms of electoral votes) were:

	NIXON	KENNEDY	UNDECIDED
New York	48.2%	43.5	8.3
Pennsylvania	69.1%	26.7	4.2
Ohio	73.0%	22.6	4.4
California	75.5%	20.0	4.5
Texas	83.2%	11.4	5.4
Illinois	69.4%	24.9	5.7

In general, the younger (Resident Physician) doctors show a slightly lower percentage of undecided votes, a smaller margin in favor of Vice President Nixon, as compared to the older (Medical Times) doctors, all of whom are in active private practice.

An additional question on the ballot gave each of the respondents an opportunity to indicate a Vice Presidential choice. Thus instead of a combined "ticket," straw voters were free to indicate a Vice Presidential favorite without regard to who headed the party ticket (as nominated at the party conventions).

The combined Medical Times and Resident Physician voting for Vice President gave U.N. Ambassador Henry Cabot Lodge more than a three to one majority over Senator Lyndon B. Johnson, 3022 to 911. Some 196 votes were recorded as "undecided." By journal, the Vice Presidential balloting was as follows:

Medical Times—Family Physicians

LODGE	79.4%
JOHNSON	16.4
UNDECIDED	4.2

Resident Physician—Hospital Doctors

LODGE	66.7%
JOHNSON	28.0
UNDECIDED	5.3

An interesting comparison is revealed in the cross party as well as straight ticket voting. The pairings were as follows:

	Medical Times	Resident Physician	Both Journals
NIXON-LODGE	73.9%	55.0%	64.6%
NIXON-JOHNSON	2.5	4.1	3.3
KENNEDY-JOHNSON	13.6	23.7	18.5
KENNEDY-LODGE	3.8	9.7	6.7
COMBINATIONS with "Undecided"	6.2	7.5	6.9

Polls are interesting. Their validity, of course, is limited to the segment of the population polled. We have limited our poll to physicians; further, the physicians are limited to general practitioners, internists, residents and interns. Obviously then, the results of the poll cannot be considered to reflect the opinions of all voters—or even all physicians. However, we have tried to reflect, as accurately as scientific polling can determine this, the thinking of our sample as of the time the poll was taken. More than that we have not tried to do. As we said, polls are interesting.

The final poll on this question will be decided by all the voters on November 8, 1960.

BE SURE TO REGISTER! BE SURE TO VOTE!

Extensive protein-binding leads to lower plasma diffusible concentrations and therefore lower concentration in compartments such as cerebrospinal fluid.

Antibacterial activity depends on diffusible concentration of sulphonamide. Protein-bound sulphonamide has no antibacterial activity. Acetylation-rates also depend on diffusible concentration, and thus highly protein-bound sulphonamides are only slowly acetylated.

Rate of renal excretion does not depend solely on protein-binding since sulphachloropyridazine, which is highly protein-bound, is nevertheless rapidly eliminated in the urine.

Higher total plasma concentrations are required with the newer sulphonamides than with the older ones, to produce similar diffusible concentrations and similar therapeutic effect. These higher plasma concentrations may increase the liability to toxic effects.

B. B. NEWBOULD, M.P.S.,
R. KILPATRICK, M.R.C.P.E.
The Lancet (1960)
No. 7130, Vol. 1, Pp. 887-891.

Diabetes Insipidus Treated with Drugs of the Chlorothiazide Series

Seven patients with diabetes insipidus, including one with the congenital, nephrogenic type, have been treated with drugs of the chlorothiazide series. All have responded with a prompt reduction in the amount of fluid taken voluntarily and in the quantity of urine passed, and body hydration has remained normal. Urinary osmolality has been approximately doubled so that for the group as a whole, the renal water requirement has fallen by 47 percent. The drugs have been shown to augment the influence of vasopressin and to permit a considerable though subnormal dilution of urine in response to overhydration. Continued treatment appears not to cause sustained sodium deficit, hypotension or reduction in glomerular filtration rate though potassium deficiency occurs unless an appropriate dietary supplement is ingested.

There appears to be little indication for the

use of these drugs in patients normally responsive to vasopressin. In cases of nephrogenic diabetes insipidus or hormone insufficiency in which the patient is intolerant of or refractory to vasopressin, further cautious exploration of their usefulness is in order.

JOHN D. CRAWFORD, M.D.,
GORDON C. KENNEDY, PH.D., M.B.,
and LISA E. HILL, M.D., M.R.C.P.
The New Eng. J. of Med. (1960)
Vol. 262, No. 15, Pp. 737-743.

Treatment of Advanced Carcinoma of the Breast

"Eighty-two patients with advanced carcinoma of the breast were treated by bilateral oophorectomy and administration of prednisone.

Sixteen patients were treated by "primary" oophorectomy, and 9 of these had a satisfactory response: their average survival-time was 16 months, compared with 3 months for the 7 patients in the unsatisfactory group.

Sixty-six patients were treated when remissions by x-ray and/or hormone therapy were exhausted. Twenty-four of these had a satisfactory response with an average survival-time of 16.5 months, compared to 6 months for the 42 other patients. Of 16 patients showing a satisfactory response, 10 were found to have hormone-dependent tumours, whereas of 26 showing an unsatisfactory response only 10 were considered to have hormone-dependent tumours.

The menopausal status, the presence of ovarian metastases, and the length of history before oophorectomy or liver involvement appeared to be of no definite prognostic significance.

Bilateral oophorectomy and administration of prednisone are useful in the treatment of patients with very advanced carcinoma of the breast."

DIANA M. BRINKLEY, M.B. and
ELIZABETH KINGSLEY PILLERS, M.D.
The Lancet (1960), Vol. 1, No. 7116,
Pp. 123-126.

Prolonged Survival of a Bone-Marrow Graft

"A patient is described who suffered from acute bone-marrow failure due to chemotherapy for Hodgkin's disease. She was treated with a bone-marrow transfusion from her sister. Evidence is presented to show that the bone-marrow graft survived for more than six months, responsible for the production of an increasing proportion (now 24%) of the patient's erythrocytes. A skin graft was undertaken between the donor of the marrow and the patient, but it was not successful.

(Addendum: We repeated the haematological investigation on this patient on September 26, 1959, Rh-positive cells are still present in her circulation. Titration studies indicate that approximately 40% of her circulating erythrocytes are Rh-positive. Woodruff and Lennox have recently published (*Lancet*, 1959, 2, 476) further details of the results of the skin grafts in blood-group chimeras.)"

J. O. W. BEILBY, M.A., IRENE S. CADE, M.S.,
A. M. JELLIFFE, M.D., DOROTHY M. PARKIN,
M.R.C.S and J. W. STEWART, M.B.
Brit. Med. J. (1960), No. 5166, Pp. 96-99.

Clinical and Metabolic Studies in Thyroid Disease

In these lectures I have described some new methods of handling clinical evidence. These techniques have a statistical basis, and I have little doubt that my approach to clinical problems stems from my training and experience as a pharmacologist. The concept of dealing with disease in a statistical way conflicts with much that is traditional in medicine and will not appeal to everyone. Nevertheless I believe these methods are an inevitable step in the evolution of scientific medicine. It should perhaps be emphasized that there is a substantial gain to patients who are included in investigations of this type, because the diagnosis must be established beyond doubt and the result of treatment fully assessed, even though this involves the physician in much extra work. It is, moreover, probably true that they could be carried out only in a country with a National

Health Service, since intensive investigation and periods of prolonged supervision are necessary and these would be economically crippling to the patient under any other system. As it is, patients are almost invariably co-operative, and their gratitude is one of the rewards of work in a field in which treatment gives such satisfactory results.

Finally, I should like to direct your attention to some outstanding problems in the fields we have been discussing. Our present methods of diagnosing thyroid disease are probably adequate, especially since therapeutic tests can often be used in difficult cases. An intriguing problem is raised by the possibility that the disease we call thyrotoxicosis represents only a certain range on a scale of progressive thyroid activity and that we have decided quite arbitrarily to regard levels at or above a certain point on the range as abnormal. Some support for this concept is given by our studies using the therapy index, since patients who are recovering from thyrotoxicosis pass through a stage in which it is difficult to say whether or not they are "thyrotoxic." Moreover, evidence has been produced that some of the symptoms of anxiety states may be due to an excess of thyroid hormones (Brody, 1949). Nevertheless, we believe that the balance of evidence is in favor of a discontinuous process and that when patients develop thyrotoxicosis a number of features develop together, and usually fairly rapidly.

We have been interested in more recent evidence that thyrotoxicosis is a disease which does not depend for its manifestations solely on an increase in the output of thyroid hormone. When the amount of functioning thyroid tissue has been reduced, either by operation or by radioactive iodine, some abnormalities remain. For example, we have confirmed that the remnant of the gland in many patients who are clinically euthyroid continues to behave like a thyrotoxic gland in its response to T.S.H. and exogenous thyroxine. Moreover, an increased rate of utilization of thyroxine has been shown to occur in some thyrotoxic patients, and this may persist after treatment

(Ingbar and Freinkel, 1958). It is clear, therefore, that the terms "euthyroid" and "cure" must be applied with some reserve to patients who have once been thyrotoxic, and we should not be complacent about our present methods of treatment, some of which are relatively crude.

Hypothyroidism also presents many unsolved problems—for example, we do not know the nature and function of myxoedematous tissue. If, however, it is true that the majority of cases are the end-result of an autoimmunizing process it may become possible to detect and treat the disease in its early stages, and when the full train of events is more precisely known we may even be able to reduce the incidence of the disease to negligible proportions.

It is however, clear that neither of the disorders I have discussed under the labels thyrotoxicosis and hypothyroidism has yet given up its secrets, and there is still much to be discovered about the nature and treatment of these fascinating disease processes.

E. J. WAYNE, M.D., F.R.C.P.
Brit. Med. J. (1960), No. 5166, P. 78.

Psychoses Associated with Systemic Lupus Erythematosus

"Forty patients with systemic lupus erythematosus were studied. Twenty-one had psychotic episodes during one or more hospitalizations, five had neurotic symptomatology, and 14 had no significant psychiatric symptoms. Fourteen patients had neurologic findings. The patients who became psychotic had a more severe form of systemic lupus erythematosus, as shown by the duration of their hospitalizations, severity of the medical symptoms, and the amount of steroid necessary to control these symptoms. Ten of the 11 cases that came to autopsy had evidence of brain damage. Of this group, all manifested either psychiatric or neurologic syndromes, or both. The occurrence of a psychosis during one hospitalization did not contraindicate the reinstitution of steroid therapy. There was no evidence of alternation of medical and psychiatric syndromes; in fact, the reverse was true. The prognosis of the psychotic reactions

was generally favorable. The development of a psychotic reaction is not an indication for the complete and immediate withdrawal of steroids, or for withholding steroids where medically indicated."

JOHN F. O'CONNOR, M.D.
Annals of Internal Medicine (1959) Vol. 51,
Pp. 526-536.

Further Observations on the Mechanism of Ulcer Pain

"The mechanism of ulcer pain was studied using the following approaches: (1) study of the effect of intragastric administration of 200 ml. of 0.1 N HCl on ulcer pain; (2) study of the fluoroscopic and roentgen alterations following acid-barium administration; (3) measurement of intraluminal pressures from the stomach and duodenum in normal subjects, in patients without ulcer pain, and in patients with ulcer pain; (4) correlation of the intraluminal pressure changes with the fluorocinematographic (GE-TVX) appearance of the stomach and duodenum; and (5) study of basal gastric secretion and gastric acidity during ulcer pain.

Intragastric administration of 200 ml. of 0.1 N HCl or acid-barium was followed by continuation of spontaneous pain or induction of ulcer pain in 54 of 155 studies. The gastric acidity was measured initially, prior to instilling HCl, 30 minutes after administration of acid-barium. The initial acid values did not differ, although the same amount of instilled acid resulted in higher acid values 30 minutes later in patients who developed ulcer pain, suggesting delayed evacuation of the instilled acid in this group.

Ulcer pain was accompanied by a significant increase in motility, as measured by intraluminal pressure wave activity synchronous with the duration of the ulcer pain. The increases were as follows: cardia of the stomach, $\Delta 71.3\%$; body of the stomach, $\Delta 49.8\%$, $p < 0.02$; gastric antrum, $\Delta 23.9\%$, $p < 0.05$; and duodenum, $\Delta 22.6\%$, $p < 0.05$. The inhibitory effect of intragastric instillation of hydrochloric acid on antral motility was

reduced for patients with duodenal ulcer to 5.6 ± 8.7 minutes, as compared to the normal period of 14.0 ± 10.9 minutes.

A significant delay in gastric evacuation accompanied ulcer pain, despite the hypermotility of the antrum. These findings were interpreted as indicative of dyssynergia of antral-pyloroduodenal evacuation mechanism as the result of increased resistance at the pyloric sphincter.

Relief of pain occurred spontaneously in most instances with resumption of evacuation activity. Relief of pain following ingestion of food appears to be related to the conversion of resting to evacuation motor activity. Relief of pain following vagotomy and cholinergic blocking agents was related to their inhibitory effect upon gastrointestinal motor activity.

The data do not support the concept that ulcer pain is produced by direct chemical irritation by hydrochloric acid. The mucosal engorgement accompanying the ulcer may lower the threshold to hydrochloric acid, permitting the acid and perhaps other stimuli to initiate the reflex disturbance in the motor activity of the stomach and duodenum which appears to be the direct cause of ulcer pain."

E. CLINTON TEXTER, JR., M.D.,

GASTON R. VANTRAPPEN, M.D.,

HAROLD P. LAZAR, M.D.,

ERNESTO J. PUETTI, M.D. and

CLIFFORD J. BARBORKA, M.D.

Annals of Internal Medicine (1959) Vol. 51,

Pp. 1275-1294.

Maintenance Treatment of

Pernicious Anaemia

"One hundred treated cases of pernicious anaemia were maintained on a two-year trial to assess the adequacy of the maintenance therapy of 1,000 ug. of parenteral vitamin B₁₂ every 12 weeks.

Throughout the period of study 87 patients showed no deterioration as judged by their haematological values (haemoglobin and red-cell count) and serum vitamin-B₁₂ assays.

Thirteen patients showed unsatisfactory red-cell levels after 9 to 16 months, and in 11 of

these improvement was obtained by increasing the vitamin B₁₂ dosage to 1,000 ug. monthly.

It is concluded that one injection of 1,000 ug. of vitamin B₁₂ every 12 weeks provides adequate maintenance therapy for most patients suffering from pernicious anaemia. However, as this dosage is inadequate in a small number of patients it cannot be recommended as a general routine measure."

J. D. KINLOCH, M.B., CH.B., F.R.F.P.S.

Brit. Med. J. (1960), No. 5166, Pp. 99-100.

Clinical Use of Dexamethasone

"Administration of dexamethasone, like that of other cortisone derivatives, produces a potent ameliorating effect on patients with the symptoms of rheumatoid arthritis, which permits increased function, without greatly affecting the progress of the disease. The cortisone drugs may be termed the medicinal crutches of the arthritic patient. Dexamethasone, like the other cortisone drugs, produces frequent and sometimes troublesome side-effects. Increased appetite, with weight gain, and mental stimulation were frequently encountered in 50 of 72 patients so treated. Patients with rheumatoid arthritis should not be started on therapy with cortisone or its newer derivatives unless the disease is markedly active and more conservative treatment measures have proved inadequate. All the 'cortisone family' of steroids can produce similar side-effects, but relative differences in side-effects produced by each make it possible to select a steroid best suited to the therapeutic needs of the individual patient.

Intra-articular therapy with hydrocortisone or its derivatives may suffice for local palliation of arthritis in a patient in whom only one joint or a few joints are severely disabled, thus avoiding the hazards of systemic steroid use. Dexamethasone is a useful and welcome addition to the family of "special-purpose steroids," but it is still not the ideal steroid for the treatment of patients with rheumatoid arthritis."

JOSEPH L. HOLLANDER, M.D.

J.A.M.A. (1960), Vol. 172, No. 4, Pp. 92/306-93/310.

Limitations of Prostatic Acid Phosphatase Determination in Carcinoma of Prostate

"A total of 321 cases of proven cancer of the prostate, 147 of which had received no previous treatment, were reviewed with reference to the merits of the total and prostatic acid phosphatase determinations. The acid phosphatase levels of 100 patients undergoing transurethral resection for benign prostatic hypertrophy were also reviewed.

Determinations for total and prostatic acid phosphatase were performed using p-nitrophenylphosphate as the substrate. Values are reported in millimol units of substrate reduced, 0.6 and 0.3 being the upper limits of normal for the total and prostatic acid phosphatase respectively.

Of 146 untreated cases with proven cancer of the prostate, the prostatic acid phosphatase was not elevated in a single instance without an associated elevation in the total acid phosphatase. In 106 patients who had previous therapy, prostatic acid phosphatase elevation did not occur alone. These findings do not support previously reported studies. In our hands the test has been of little value in the detection of early carcinoma. The prostatic fraction has been of no value in assessing the presence of local as opposed to metastatic disease.

Previously reported increased sensitivity of prostatic acid phosphatase determination in the followup care of treated cases has not been our experience.

Because of the lower incidence of false positive elevations with the prostatic fraction in benign prostatic hypertrophy, we have found the test of value in those patients with a palpably benign gland, no bony change, but with repeatedly elevated total acid phosphatase.

Under these conditions, if the prostatic fraction is normal, the patient is spared further diagnostic studies or treatment."

C. W. KURTZ and W. L. VALK
The Journal of Urology (1960),
Vol. 82, No. 1, Pp. 74-79.

Ventricular Fibrillation

"Ventricular tachycardia and fibrillation were terminated by externally applied electric countershock more than five hundred and thirty-two times in 8 patients; 5 have survived for one month to two and a half years. Using the same technic, others have successfully defibrillated 9 additional patients approximately sixty times.

The technic is immediately effective, clinically feasible and safe.

Successful external defibrillation requires application of the countershock within four minutes; this limitation can be met by cardiac monitoring, which provides immediate recognition of cardiac arrest and identification of the arrhythmia.

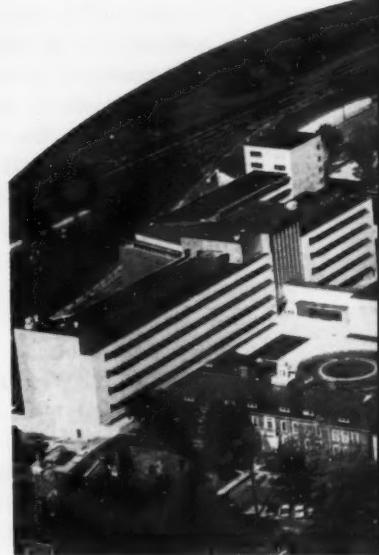
Prevention of recurrent ventricular tachycardia and fibrillation in patients with complete heart block remains an unsolved problem. Drugs are largely ineffective; indeed, quinidine and procaine amide are contraindicated. External electric cardiac stimulation at rates above the basic idioventricular rate has been effective in preventing these recurrent ventricular arrhythmias, but long-term stimulation is difficult."

PAUL M. ZOLL, M.D., ARTHUR J.
LINENTHAL, M.D. and
LEONA R. NORMAN ZARSKY, M.D.
The N. Eng. J. of Med. (1960), Vol. 262, No. 2,
Pp. 105-112.



University of Michigan Medical Center

In this large Midwest education and research center some 40,000 clinic patients and 17,000 inpatients are treated annually.



The University of Michigan Medical Center last year observed the 90th anniversary of its University Hospital — the nation's first university owned hospital. It was established in 1869. Located in the city of Ann Arbor, 35 miles from Detroit and 55 miles from the State Capitol, the vast center is a focal point for patient service, medical education and research in a three-state area.

The hub of the Medical Center for clinical services and training programs is the Main Hospital. Eight different buildings, providing total facilities for 1050 inpatients and up to 1000 outpatients daily, radiate from the hospital proper. All but two of these buildings have been constructed within the past ten years.

They include the Outpatient Clinic (24 daily clinics), Women's Hospital (76 beds and 83 bassinets), the Neuropsychiatric Institute (85 beds), Veterans Readjustment Center (47 beds), Childrens Psychiatric Hospital (59 beds), Kresge Research Institute, Alice C. Lloyd Radiation Therapy Unit, and Simpson Memorial Institute.

The bed complement of the Main Hospital is 725. Construction will soon begin on a 200 bed children's hospital and a mental health research institute, and plans are underway for a cancer research unit and a chronic disease and rehabilitation hospital.

The present facilities cost approximately \$16 million. Within the next five years the total units will represent \$37 million in construction outlay.

Although the Medical Center receives appropriations from the state for initial construction, the full costs of operation (with the exception of the psychiatric units) are met with funds received from patients for services rendered; no state subsidy is provided. The cost of operation totals approximately \$25,000 per day at the hospital.

The University of Michigan serves as a consultative and diagnostic center for patients referred by physicians from 83 counties in the state.

Each patient is referred to the University Hospital, examined in the outpatient department and assigned to a clinical service. All



members of the housestaff participate daily in rounds. The wards, units of 50 beds each are particularly suitable for teaching and care of the patient. The main hospital has two such wards on each of the six floors. Between these wings are semi-private rooms used primarily for patients needing more intensive care.

Private

Private room facilities constitute about 10 percent of the total hospital bed complement and are used in the clinical training programs. They are located on three floors with 32 beds in each unit. These areas were completely modernized in 1958, and include electrically operated, patient-controlled beds, inter-communication between the bedside and nurses' station and piped oxygen to each room. The total hospital facilities make available to the resident patients on private, ward and intensive care units.

Eleven operating rooms, including one specifically designated for open-heart surgery, are also housed in the Main Hospital. Adjacent to them is the recovery room, staffed 16 hours

a day and with facilities available for 12 patients at a time. Approximately 40 operations are performed daily in the Main Hospital, most of them major procedures.

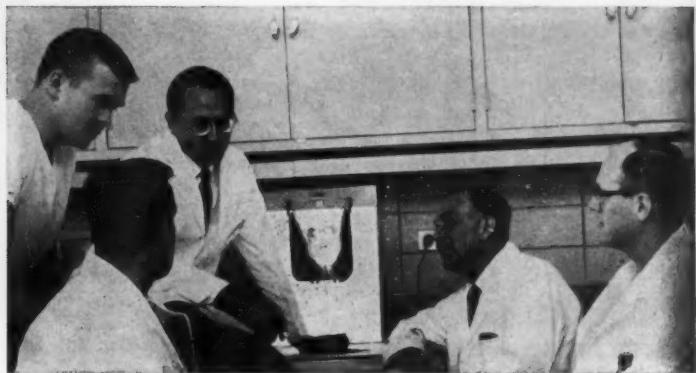
Integral parts of the Medical Center are the largest medical school and school of nursing in the country; immediately adjacent to the Center is one of the nation's eleven schools of Public Health.

Campus Atmosphere

The University Medical Center is part of the University of Michigan campus, making readily available such activities as "Big Ten" football, concerts, plays, lectures. Recreational facilities in the community include six golf courses, and there are 50 lakes within a radius of twenty miles.

Organization

Broad policies regarding patient services are established by a Board-in-Control of University Hospital. The board is appointed by the regents of the University of Michigan and includes, among others, the dean of the Medical



Basic science buildings and the nursing school (top) are the first accomplishments in a \$15 million expansion program at the University of Michigan Medical Center. Also shown are a few of the many activities — emergency room care, outpatient-staff conference, medical illustrator at work — which are part of the daily scene at this large medical complex.



School, the director of the hospital, and a senior clinical representative.

The Senior Medical Advisory Staff — composed of professors and associate professors of the Medical School—recommends the professional policies for patient care. In addition, an executive committee of the Medical School develops policy relative to teaching and clinical services. Close coordination of teaching and patient service is provided by the presence of the director of the hospital and the dean of the Medical School on policy-making bodies of both the hospital and the Medical School.

The Junior Medical Advisory Staff—consisting of assistant professors, instructors, and one resident representative from each service —completes the staff organization.

Part-time practice privileges are granted to only a limited number of staff members. Of the 1050 beds, approximately 90 are designated for private patients, but these patients are available for teaching in the residency programs. Residents follow the schedules established on their specific services, and assist in teaching interns and other residents junior to themselves.

Benefits

The hospital cafeteria offers a 33 percent discount to the house staff. House staff members are required to carry Michigan Blue Cross hospitalization or an equivalent health insurance program. All outpatient and professional charges not covered in the insurance are added benefits offered by the hospital for both the staff and their families.

An unusual facility at the Medical Center is a complete color television studio (closed

circuit) which is initiating operations at this writing; it will enable medical students and intern and resident groups to view lectures and demonstrations held in many parts of the Medical Center. A special television camera is also permanently installed in one operating room to provide a close-up view during surgical procedures.

Radiation Therapy

Radiation therapy at the Medical Center includes two rotating machines, one with a cobalt source and the other with cesium. Said to be the world's largest single source in medical use, the cesium is being evaluated for the Atomic Energy Commission as to its applicability in treatment. The radiation therapy unit, housed in underground quarters adjacent to the Main Hospital, treats patients from all over the United States.

Emergency Suite

The emergency suite is physically a part of the Outpatient Building and has its own contiguous radiological facilities. The unit houses four emergency operating-treatment rooms in addition to receiving and patient areas.

Banks

The University Hospital is both the depository and the clearing house for the area's tissue banks, which are playing an increasingly important role in medical care. These include skin, eye, blood, and bone banks.

Medical Illustration

The hospital has five medical artists, supervised by a certified medical illustrator, in the Department of Medical Illustration. They provide detailed drawings for teaching purposes and exhibits. The department's photography unit does clinical photography and microphotography, and makes teaching slides and motion pictures.

Radioisotopes

The clinical isotope unit performs studies of radioactive iodine uptake of the thyroid gland,

UNIVERSITY OF MICHIGAN MEDICAL CENTER CONFERENCES

MONDAY

A.M. 8:15 Neuropathology Conference
 9:00 Dermatology-Psychiatric Conference
 11:00 Pediatrics Clinical Conference
 P.M. 12:45 Medical Journal Club
 1:30 Fracture Conference
 3:30 Scintigram Pathology Conference
 4:00 Cardiac Conference
 Surgery-X-ray Conference
 Gastroenterology Conference
 7:00 X-ray Staff Meeting

TUESDAY

A.M. 8:00 Dermalpathology Conference
 Gynecology Tumor Conference
 11:00 Pediatrics Clinical Conference
 P.M. 12:30 Ophthalmology Journal Club
 3:00 Chest Conference
 4:00 Medical-Surgical Gastroenterology Conference
 8:00 Pediatrics Staff Conference

WEDNESDAY

A.M. 8:00 Allergy Journal Club
 Ophthalmology Grand Rounds
 8:30 Polio Respirator Center Staff Conference
 10:00 Surgery Grand Rounds
 11:00 Pediatrics Clinical Conference
 P.M. 12:00 Anatomy Staff Meeting and Luncheon
 Pathology Journal Club
 12:15 Medical Clinicopathological Conference
 12:30 Neurology Journal Club
 12:30 Obstetrics and Gynecology Clinical Conference

3:00 Surgery Educational Films
 4:00 Pediatrics Surgery Conference
 Thoracic Surgery Conference
 Medical X-ray Conference
 4:15 Otolaryngology Staff Meeting
 7:45 Surgery Staff Meeting

THURSDAY

A.M. 8:00 Clinical Radioisotope Journal Club
 Orthopaedics Open Staff Meeting
 Dermatology Conference
 8:15 Obstetrics and Gynecology X-ray Conference
 9:00 Pediatrics Roentgenology Conference
 10:15 Neurosurgery, Neuroanatomy Conference
 P.M. 4:00 Medicine Staff Conference
 Pathology Slide Conference
 4:30 Neurology-Neurosurgery Follow-up

FRIDAY

A.M. 8:00 Gynecology Tumor Conference
 9:00 Dermatology-Allergy Conference
 11:00 Pediatrics Clinical Conference
 P.M. 12:30 Psychiatry Journal Club
 1:30 Clinicopathological Conference
 3:30 Tumor Board

SATURDAY

A.M. 8:00 Surgery Staff Conference
 8:30 Pediatrics Discharge Conference
 9:00 Obstetrics and Gynecology Conference
 Thoracic Surgery Conference
 Neurosurgery, Ophthalmology Conference

blood volume and red cell volume determinations along with brain tumor localization, radio-iodine therapy of selected cases of hyperthyroidism and thyroid carcinoma.

Library

The medical library is housed in the five-story Kresge Research building. Constructed at a cost of \$600,000, the library offers a variety of facilities including a tape-recorded

medical abstract service and private cubicles for study and research. The bound volumes in the library total more than 117,000, and over 1,000 current periodicals are received annually.

The library staff is available for consultation and assistance in the preparation of bibliographies. In addition to the medical library, the other schools on the campus maintain their own reference collections, which are also available on call by medical staff.



How Are Your Public Relations?

Maintaining good public relations is a problem that faces all practicing physicians, says the author. And the public impression the doctor makes in his community can help—or hinder—his practice.

HAROLD J. ASHE
Beaumont, California

When public relations is mentioned it is usually in connection with a large utility corporation or industrial titan. A physician, therefore, may conclude erroneously that public relations is a matter of no concern to him. Yet, every physician has public relations problems, whether they're recognized as such or not.

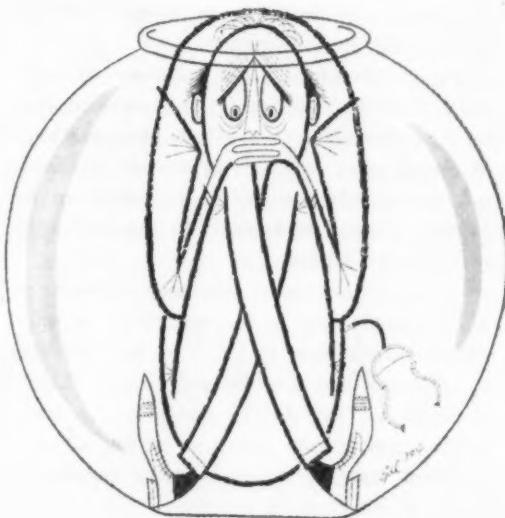
The physician lives in a goldfish bowl, so that virtually all his professional and non-professional acts affect his public relations—for good or ill. Some physicians seem to know instinctively what to do and what to refrain from doing to foster better public relations. But some do not have this instinctive approach. It is these doctors who should give serious thought to the problem.

Public relations should not be confused with publicity. Public relations and publicity are not identical, although the latter may be an instrument for improving public relations. However, publicity is not synonymous with

public relations. Conceivably, publicity may adversely affect public relations.

In a few words, public relations may be defined as a consciously planned means by which an individual, corporation or organization seeks to create a better understanding of him (or it) in the public mind. It is designed to produce a maximum amount of good will and to keep ill will to a minimum.

Public relations is responsive to public opinion, prejudices and predilections. Sometimes it bows to these situations; often it tries to overcome and offset them. Public relations has as its goal the strengthening of good will and the creation of favorable reactions. It may involve the abandonment of certain practices or attitudes which result in ill will.



Public relations as now understood is relatively new. It came into existence around World War I as an outgrowth of press agency. The elder John D. Rockefeller was one of the first clients of a public relations counsel. The task was to "humanize" Rockefeller who, in some quarters at least, was not well regarded. To accomplish this, Rockefeller was constantly supplied with a pocketful of shiny dimes which he gave away to youngsters. Other devices were also used, but his "generosity with dimes" became a widely accepted characteristic of the man.

A classic example of bad public relations was the occasion when another man of vast wealth is reported to have replied to a leading question: "The public be damned." Never having heard of public relations, the purported author of the remark did not bother to issue a denial or attempt to overcome its ill effects.

Maximum Numbers

A physician who has established good public relations in his community has succeeded in favorably disposing a maximum number of people toward him and his practice. The confidence and respect in which he is held should encompass a larger group than his patients. In immediate terms such widespread approval may result in no increase in his practice. In the long run, however, it will be reflected in gross receipts.

Public relations for the individual goes to the core of one's reputation. A reputation may be poor, though undeserved. A physician may be acquiring a negative reputation in some quarters simply because he is indifferent to public opinion, or because he fails to even recognize its existence.

A man's character has been defined as what a man truly is. His reputation is what others believe him to be. The two are not synonymous and may be poles apart. Many a rascal has had a fine reputation, at least until exposed, and many a person of unqualified integrity suffers from a reputation which is less than he deserves.

A person of bad repute, such as a community's ne'er-do-well, may not be able to do much about his reputation unless he changes his ways. *However, better public relations can help even those who are above reproach.*

Civic Attitude

A physician's attitude toward his community has a marked bearing on public relations. If he shirks all civic responsibilities and avoids outside activities on the plea of being "too busy," he may be shunned by many opinion-shapers whose good will is invaluable.

A physician need not go overboard in civic activities or neglect his practice to perform innumerable civic chores. But his participation should be sufficient to "register" with that part of the public which notices such activities.

Professional competence is not enough where public relations is involved. Professional mannerisms and attitudes, as well as personal behavior and deportment, will loom large in public opinion and have an important bearing on public relations. The detached, impersonal professional attitude may be an asset in a downtown metropolitan office. But it may be a liability in a neighborhood or small town location.

A physician in the city who may not know his neighbors one block removed may find such tolerant indifference striking a discordant note in a small town where everyone knows everything there is to know about everyone else, *including a lot of things that aren't so.* He may be baffled and resentful of this unless he recognizes that much of it is friendly, harmless curiosity which is a characteristic of life in a smaller community.

So, the atmosphere of the office may need to be critically examined as a necessary concession to public opinion. Public relations, personal attitudes and behavior may need overhauling.

Many Approaches

There are many ways in which physicians can improve their public relations and create a more favorable impression of themselves,



both professionally and personally. They may make contributions to charities far in excess of their ability to do so. Having done this, they may assume they have discharged their civic obligations. Often, however, these contributions go unnoticed. Some physicians find greater satisfaction in contributing their time to worthy charities and other laudable endeavors. Regardless of the purpose behind such participation, it results in good public relations.

One physician interested in amateur dramatics but too shy to take an acting part serves as publicity director for a little theatre group.

Another physician, disturbed at the growth of juvenile delinquency, devotes considerable spare time working with a youth club.

There are countless outlets for spare-time activity which, while providing an outside interest, have great possibilities for improving the public relations of those so engaged, and

putting them in a more favorable light. On this point, it may be worth underscoring that any activity entered into reluctantly and with an eye only to public relations will probably not be rewarding in any sense.

A physician has to learn to live with this fact: he cannot draw a fine line between his professional life and his life as a private citizen. And his family—whether they like it or not—share in this responsibility. Their conduct will reflect on the physician as a father and husband.

The doctor's wife must be as public relations minded as he is. She not only has occasion to deal with patients, but usually has broader community contacts than her husband. Her "loose talk" at the bridge club can cost him patients. By the same token, her hard work as a Girl Scout leader can benefit her husband's reputation.

Humanizing Influence

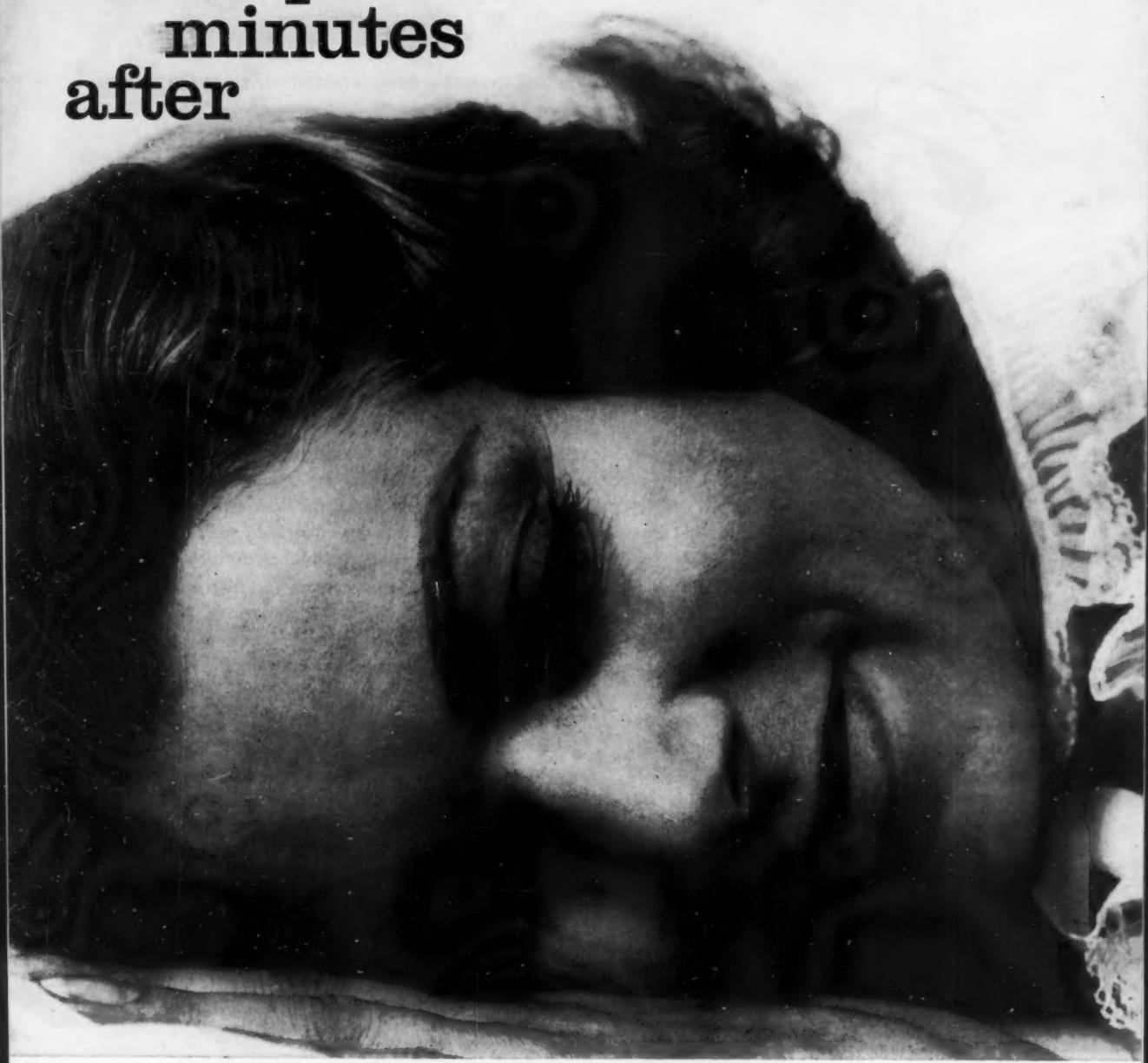
A cynic once defined public relations as "the art of making the public believe what ain't so." This, long ago, may have had a critical grain of truth in it. Today, however, public relations is the art of making the public aware of the *best* that is in business and the professions, based on fact. It focuses attention on the human side of business and the professions.

Much of the ill will attaching to business and, to a degree, to the professions, is simply the end result of failure to do a good job, individually and collectively, in public relations.

Therefore, whether a physician appears in a more or less favorable light may depend in large measure on whether he consistently conducts himself in consonance with good public relations practices and with a respectful ear attuned to public opinion.



asleep
minutes
after



This is the promise of Noludar 300...a night of deep, refreshing sleep without risk of habituation or toxicity...6 to 8 hours of undisturbed rest...an easy awakening in the morning, free of fogginess or barbiturate "hangover." Try Noludar 300 for your next patient with a sleep problem. One capsule at bedtime. Chances are she'll tell you

"I slept like a log"

NOLUDAR® 300

brand of methyprylon

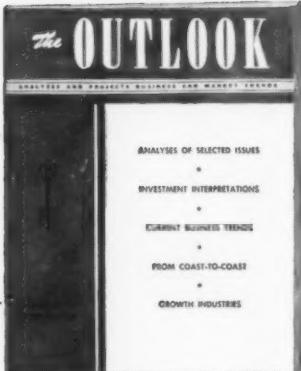
300-mg capsules



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The OUTLOOK

BY SPECIAL ARRANGEMENT



STANDARD & POOR'S

The world's foremost investment advisory service, analyzes and projects business and market trends for Medical Times readers.

SOME GOOD VALUES IN LOW-PRICED GROUP

Permit Diversification at Low Cost—Better-Grade Issues Favored, with Emphasis on Reasonable Valuation and Intrinsic Qualities

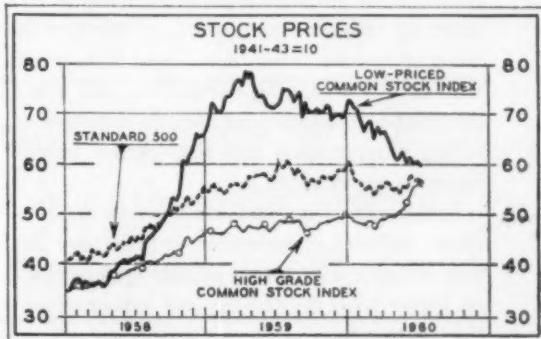
Wide percentage fluctuations are typical of low-priced shares, explaining their popularity particularly during rising markets. This is attested by the movement of our low-priced stock index, made up of issues around the lower end of the quality scale to afford a general measure of speculative fervor. During the last major speculative surge, that index soared from its 1957 low to its April 1959 high for a record gain of 145%, whereas the broad Standard "500" advanced only 54%. Unquestionably, some low-priced issues were carried to unwarranted heights and the subsequent retreat, in some cases, was correspondingly steep. At present, the low-priced index is down 24% from its peak, the Standard "500" only 7.5%.

Low-priced stocks, of course, vary widely in quality, ranging from radical speculations to issues of sound investment merit. Through stock splits or large stock dividends, some blue chips were intentionally brought down in price to a more popular bracket. Hence, a low price tag is not necessarily indicative of inferior investment quality, just as the gyrations of the low-priced stock index are hardly typical of all low-priced issues.

Careful appraisal is required. Hence our preference of better-grade issues with emphasis on reasonable valuation in relation to foreseeable earnings, and intrinsic profit and growth possibilities.

Thus selected, commitments should work out well over a period of time. They permit diversification at low cost, important to investors with limited resources, and the spreading of risks, one of the cardinal investment principles. The accompanying portfolio made up of six well-situated low-priced stocks illustrates how adequate diversification can be obtained with an investment of approximately \$5,000.

• *Celanese Corporation*—Some \$25,000,000 is being spent this year for expansion. Recently the company announced plans to double production of higher acrylate esters, used by the paint, paper, textile, rubber, and other industries. Large additions are also under way to its polyethylene capacity, along with the recent entry into the manufacture of blow molded



A SAMPLE \$5,000 PORTFOLIO

NO. OF SHARES		APPROX. COST*	ANNUAL INCOME	APPROX. YIELD
30	CELANESE CORP.	\$735	\$30.00	4.1%
35	COMBUSTION ENGINEERING	800	39.20	4.9
30	DELTA AIR LINES	830	36.00	4.3
30	GRAND UNION	840	18.00	2.1
35	NATL. FUEL GAS	792	42.00	5.3
35	TRANSAMERICA CORP.	925	28.00	3.0
		<hr/>	<hr/>	<hr/>
		\$4,922	\$193.20	3.9%

*Because of the time-lag created by the mechanics of magazine publishing, investors should consult daily papers for latest prices.

plastic containers and the production of polyethylene film for the packaging industry. New facilities are being added for three new fibers. All of which points to long range earnings growth. Large development expenses may hold 1960 earnings to around \$2.65 a share, but wider improvement is possible next year; equity in earnings of foreign affiliates could exceed \$1 a share before taxes. *With an increase in the \$0.25 quarter dividend likely, the stock is attractive for its growth potential.*

● *Combustion Engineering*, one of the two largest manufacturers of steam generating equipment, is still feeling the impact of the order lag in late 1958 and 1959, which, in view of the long lead time involved in completing large utility installations, will have a retarding effect on sales and earnings this year. On the other hand, net may be less heavily penalized by research and development expenses than in recent years. Over-all, 1960 share profits should not be much below \$2 compared with \$2.10 netted last year, and prospects for 1961-62 appear materially better, reflecting indicated resumption of the upward trend of new business. Also, the Chattanooga tube mill, now nearing completion, will lessen company's dependence on outside suppliers of tubing requirements, and may permit further operating economies.

Longer range, projections of power requirements indicate considerable growth over the next decade. *The shares appear under-valued on longer term possibilities and appear attractive on this basis.*

● *Delta Air Lines*—This well-managed airline appears to have been the only domestic carrier to score an earnings gain for the second quarter of 1960. Even so, earnings for the fiscal year ended June 30, down from \$3.62 in the previous fiscal period when results were inflated by an estimated \$1.75 a share through windfall traffic arising out of strikes at competing lines. With higher fares effective at the start of the current fiscal year and with Delta's strong competitive position imparting still greater benefits from its important jet lead, the company's earnings gains should widen steadily over the next 12 months.

Fare increases are expected to contribute about \$2.50 a share after taxes, and earnings from operations in the current fiscal year have an excellent chance of setting a new peak of around \$5.50 to \$6.00 per common share, after \$12 a share cash flow from depreciation. *The leveraged shares have considerable speculative appeal for potentially significant appreciation.*

● *Grand Union* operates a growing chain of food markets in ten Eastern states with sales of over \$600 million. In addition to continued opening of supermarkets and enlargement of existing markets, it will open nine Grand-Way Discount Centers this year, in addition to fourteen already in operation. These feature over 30,000 articles of general merchandise.

The information set forth herein has been obtained from sources believed to be reliable, but its accuracy and completeness are not guaranteed.

this hypertensive patient prefers Singoserp... and so does his physician



Photo used with patient's permission.

Patient's comment: "The other drug [whole root rauwolfia] made me feel lazy. I just didn't feel in the mood to make my calls. My nose used to get stuffed up, too. This new pill [Singoserp] doesn't give me any trouble at all."

Clinician's report: J. M., a salesman, had a 16-year history of hypertension. Blood pressure at first examination was 190/100 mm. Hg. Whole root rauwolfia lowered pressure to 140/80—but side effects were intolerable. Singoserp, 0.5 mg. daily, further reduced pressure to 130/80 and eliminated all drug symptoms.

Many hypertensive patients and their physicians prefer Singoserp® because it usually lowers blood pressure without rauwolfia side effects

SUPPLIED: Singoserp Tablets, 1 mg. (white, scored). Also available: Singoserp®-Esidrix® Tablets #2 (white), each containing 1 mg. Singoserp and 25 mg. Esidrix; Singoserp®-Esidrix® Tablets #1 (white), each containing 0.5 mg. Singoserp and 25 mg. Esidrix. Complete information sent on request.

Singoserp® (syrosingopine CIBA) Singoserp®-Esidrix® (syrosingopine and hydrochlorothiazide CIBA)

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CIBA
SUMMIT, NEW JERSEY

SIX WELL-SITUATED ISSUES

*ISSUE	EARN. \$ PER SH. 1959 E1960	INDIC. DIVD. \$	1959-60 RANGE	APPROX. PRICE ²	YIELD %
CELANESE CORP.	2.44	2.65	1.00	34 -21%	24½ 4.1
COMBUSTION ENGINEERING ..	2.10	1.90	1.12	38½-23%	22% 4.9
DELTA AIR LINES	3.62	2.10	1.20	36¾-20	27% 4.3
GRAND UNION	1.73	1.85	†0.60	37¾-26¼	28 2.1
NATIONAL FUEL GAS	1.91	1.75	1.20	24¾-21	22% 5.3
TRANSAMERICA CORP.	1.91	2.00	0.80	34¾-24¾	26% 3.0

*All listed on New York Stock Exchange. E—Estimated. †Plus stock. ²Years ended June 30. ³Years ended Feb. 28. *Because of the time-lag created by the mechanics of magazine publishing, investors should consult daily papers for latest prices.

The disposal of 38 Canadian stores in mid-1959 made for lower sales thus far this year, but better margins lifted earnings slightly for the 13 weeks ended May 28, 1960. An improved sales trend is now in prospect, and earnings for the fiscal year ending February, 1961, may reach \$1.85 a share, against \$1.74 netted from operations in the preceding year on fewer shares outstanding. The \$0.15 quarterly dividend and the 5% stock extra are expected to continue. *With aggressive expansion continuing, the stock remains attractive for its growth potential.*

- *National Fuel Gas* is the holding entity for an integrated natural gas system serving Buffalo and western New York, and a contiguous area across western Pennsylvania into eastern Ohio. This encompasses a broad diversification of industry. The system is experiencing a steady growth in new customers, at the rate of about 12,000 a year. Earnings for 1960 are officially estimated at around \$1.75 a common share. This would compare with \$1.91 in 1959, of which \$0.25 represented an

increment from the severe winter weather. Longer-term prospects are basically favorable, and periodic dividend increases can be expected. The present dividend rate is \$0.30 quarterly. *Providing an attractive yield, the sound stock appeals for income and gradual capital gains.*

- *Transamerica's* major holding is Occidental Life Insurance, which has grown rapidly to become 11th largest in the industry. The subsidiary is opening about 20 new general agencies or branches each year. Considering also the rapid population gains in California (its major territory), further above-average growth is indicated. Transamerica's fire and casualty interests were strengthened by the recent acquisition of American Surety. Expectation is that good earnings will be forthcoming from this field in nearby years as benefits of the current expense reduction program show up. For 1960, consolidated earnings should match the \$1.91 a share of 1959. *The stock has relatively attractive potentials for capital gains.*

TWO WELL-SITUATED VENDING MACHINE ISSUES

Vending issues have been among the best acting groups in the stock market this year, sparked in part by Universal Match's development of a bill-changer. An additional favorable factor could be the enactment of a higher minimum hourly wage, which, by increasing company cafeteria costs, may tend to accelerate the trend toward outside catering. While a fully satisfactory system of dispensing hot foods

from automatic equipment has yet to be devised, considerable work in overcoming the food spoilage problem is being done by leading machinery producers.

The following two stocks are favored as longer range speculations.

- *ABC Vending*, a leading merchandiser of candy, food, and other items through both



The physician listens to a tense, nervous patient discuss her emotional problems. To help her, he prescribes Meprospan® (400 mg.), the only continuous-release form of meprobamate.



The patient takes one Meprospan-400 capsule at breakfast. She has been suffering from recurring states of anxiety which have no organic etiology.



She stays calm while on Meprospan, even under the pressure of busy, crowded supermarket shopping. And she is not likely to experience any autonomic side reactions, sleepiness or other discomfort.



She takes another capsule of Meprospan-400 with her evening meal. She has enjoyed sustained tranquilization all day—and has had no between-dose letdowns. Now she can enjoy sustained tranquilization all through the night.



Relaxed, alert, attentive . . . she is able to listen carefully to P.T.A. proposals. For Meprospan does not affect either her mental or her physical efficiency.



Peacefully asleep . . . she rests, undisturbed by nervousness or tension. (Samples and literature on Meprospan available from Wallace Laboratories, Cranbury, N. J.)

in and other theatres, is expanding its in-plant feeding operations. The latter already include local plants of Continental Can, I.B.M., and National Cash Register. As a purchaser, rather than a producer of vending equipment, the company is in an excellent position to capitalize on technological improvements in food dispensing machinery. The company looks for earnings of at least \$2.25 a share in 1960; up from \$2.05 a year before and \$1.67 in 1958. If contemplated expansion moves in the industrial feeding field materialize, earnings of \$3 a share for 1961 appear attainable. Dividends of \$0.25 quarterly are expected to be supplemented with a small year-end stock extra in line with the 2% paid in January, 1960 and commitments should work out well.

- *Vendo Co.* is the nation's largest manufacturer of automatic vending equipment, largely

coin-operated bottled and pre-mix soda vending machines. Aided by inclusion of results of operation of Stoner Mfg. for a full year, as well as by the favorable reception accorded the company's new machines, profits in 1960 may approach \$3 a share, against the \$1.94 of a year before. Promising new products include a coin-operated non-refrigerated machine dispensing six-packs of bottled soda and the "universal vender," to be marketed later in the year, which is said to handle both hot and cold foods, including deep-freeze items. Proceeds from the forthcoming \$5,250,000 convertible bond issue, which will be offered under rights, probably will be used in part for expansion. Shareholders were asked on August 9 to approve a 2-for-1 stock split. The dividend on the split shares will be \$0.40 annually. *The shares have some appeal for long-range capital gains.*

GENERAL DYNAMICS FACING WRITE-OFFS

Contrary to earlier expectations, GENERAL DYNAMICS may again be forced to make sizable write-offs on its civilian aircraft business. Despite a tremendous increase this year in sales of commercial planes, the volume attained is still well below the breakeven point. As a consequence, earnings may show little, if any, change from last year's \$3.12 a share, notwithstanding moderate improvement in most other divisions.

Of the 55 Convair 880s on order, 45 are to be delivered this year and 10 in 1961.

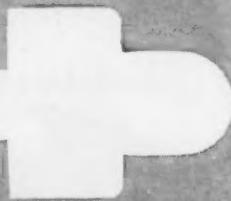
No Convair 600 deliveries are scheduled in 1960, but 37 are on order, with 22 to be delivered next year. Combined military plane sales and submarine billings will be down, but gains are indicated for missiles, electronics, and the Materials Service line of building materials. Cash position remains strong, in spite of increased inventories and receivables. No change in the \$0.50 quarterly dividend is seen. *Not far from the low of 1956, the stock seems to discount quite fully the downward revision in this year's earnings possibilities.*

GENERAL TIME HOPES TO RECOUP LOSS

A deficit was incurred in the second quarter, offsetting profits of \$0.10 a share for the initial three months. Contributing factors were the decline in sales of consumer products, an estimated inventory adjustment of \$0.17 a share and a loss of some \$0.20 a share on the Transacter. However, a turn for the better is believed to be at hand. Some pickup in orders has been noted in recent weeks, and production of auto clocks is expected to rise to 4,000

units daily later in the second half, compared with previous output of 800 units. Recent automation moves and standardization of clock movements should aid margins and reduce inventory requirements. A number of new orders for the Transacter have been received. The company hopes to deliver 400 in 1960 and to end the year with between 700 and 1,000 on order or delivered. Informed sources believe that about \$0.50 a share may be cleared

why use nose drops?



**'SUDAFED' acts systemically to relieve
stuffy noses . . . and dilate the bronchi.**

'SUDAFED'[®]

Pseudoephedrine Hydrochloride

○○○○○○○ TABLETS ○○○○

and SYRUP

for nasal and respiratory decongestion

- Quick relief — 15 to 30 minutes
- Gentle, prolonged action — 4 to 6 hours
- Seldom causes central stimulation

Dosage: adults—60 mg., 3 or 4 times daily
children (4 mos. to 6 yrs.)—30 mg., 3 or 4 times daily
infants up to 4 mos. of age—15 mg., 3 or 4 times daily

Supply: 'SUDAFED' brand Pseudoephedrine Hydrochloride
Tablets—30 mg. sugar-coated, 60 mg. scored

Syrup—30 mg. per 5 cc. teaspoonful

Precaution: Although pseudoephedrine causes
virtually no pressor effect in normotensive patients,
it should be used with caution in hypertensives.

Complete literature available on request.



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good day
begins
with



...a substantial nutritional basis for normal daily activity in the normal patient. GEVRAL is an effective, once-a-day supplement for the entire family—13 vitamins, 11 minerals.

Each capsule contains: Vitamin A 5,000 U.S.P. Units • Vitamin D 500 U.S.P. Units • Vitamin B₁₂ with AUTRINIC® Intrinsic Factor Concentrate 1/15 U.S.P. Oral Unit • Thiamine Mononitrate (B₁) 5 mg. • Riboflavin (B₂) 5 mg. • Niacinamide 15 mg. • Pyridoxine HCl (B₆) 0.5 mg. • Ca Pantothenate 5 mg. • Choline Bitartrate 50 mg. • Inositol 50 mg. • Ascorbic Acid (C₆) 50 mg. • Vitamin E (as tocopherol acetates) 10 I. U. • L-Lysine Monohydrochloride 25 mg. • Rutin 25 mg. • Ferrous Fumarate (Elemental iron, 10 mg.) 30.4 mg. • Iodine (as KI) 0.1 mg. • Calcium (as CaHPO₄) 145 mg. • Phosphorus (as CaHPO₄) 110 mg. • Boron (as Na₂B₄O₇·10H₂O) 0.1 mg. • Copper (as CuO) 1 mg. • Fluorine (as CaF₂) 0.1 mg. • Manganese (as MnO₂) 1 mg. • Magnesium (as MgO) 1 mg. • Potassium (as K₂SO₄) 5 mg. • Zinc (as ZnO) 0.5 mg.

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VITAMIN-MINERAL
SUPPLEMENT CAPSULES

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

Lederle

**"Because Caroid and Bile Salts Tablets are not harsh,
but act gently to produce a normal bowel movement,
I prefer them for my 'over 40' patients."**



Caroid & Bile Salts Tablets

The combined action of the principal ingredients in Caroid and Bile Salts Tablets provides 3-way, physiologic relief of constipation.
Caroid® — potent proteolytic enzyme for improved protein digestion.
Bile salts — choleric for treatment of biliary stasis; hydroscopic for soft, well-formed stools.

Stimulaxant — to improve smooth muscle tone, restore regularity.

Dosage: 1 or 2 Caroid and Bile Salts Tablets should be taken with at least 1 glass of water about 2 hours after breakfast and at bedtime.

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American Ferment Co., Inc., 1450 Broadway, New York 18, N. Y.

for the full year, after a \$0.40 loss on the Transacter, as compared with \$0.91 earned in 1959.

This stock, which had a spectacular rise

on the strength of potentials for the Transacter, has slumped from its 1960 high. It may remain depressed for a while longer. We would await a better buying opportunity.

APPRAISALS OF SOME STOCKS

● **Borg-Warner**—Sales for 1960 of this very broadly diversified company probably will be little changed from last year's record \$650 million. Expected gains in automotive parts, air conditioning lines and plastic industrial products are likely to be about offset by reduced volume for home appliances, petroleum equipment and services, and agricultural equipment. With margins well maintained, 1960 profits should approximate the \$4.36 a share earned in 1959, which was up sharply from \$2.34 the year before and second only to the peak \$5.16 attained in the record 1955 automobile year. Domestic capital expenditures this year are estimated at around \$25 million, compared with \$19.7 million in 1959 and \$13.1 million in 1958. Production recently began in England of an economical three-speed automatic transmission for use in compact automobiles, a unit which may be adopted by certain domestic automobile manufacturers. *The stock yields a generous return from the well-covered \$2 dividend, and represents good value in relation to medium and longer-term prospects.*

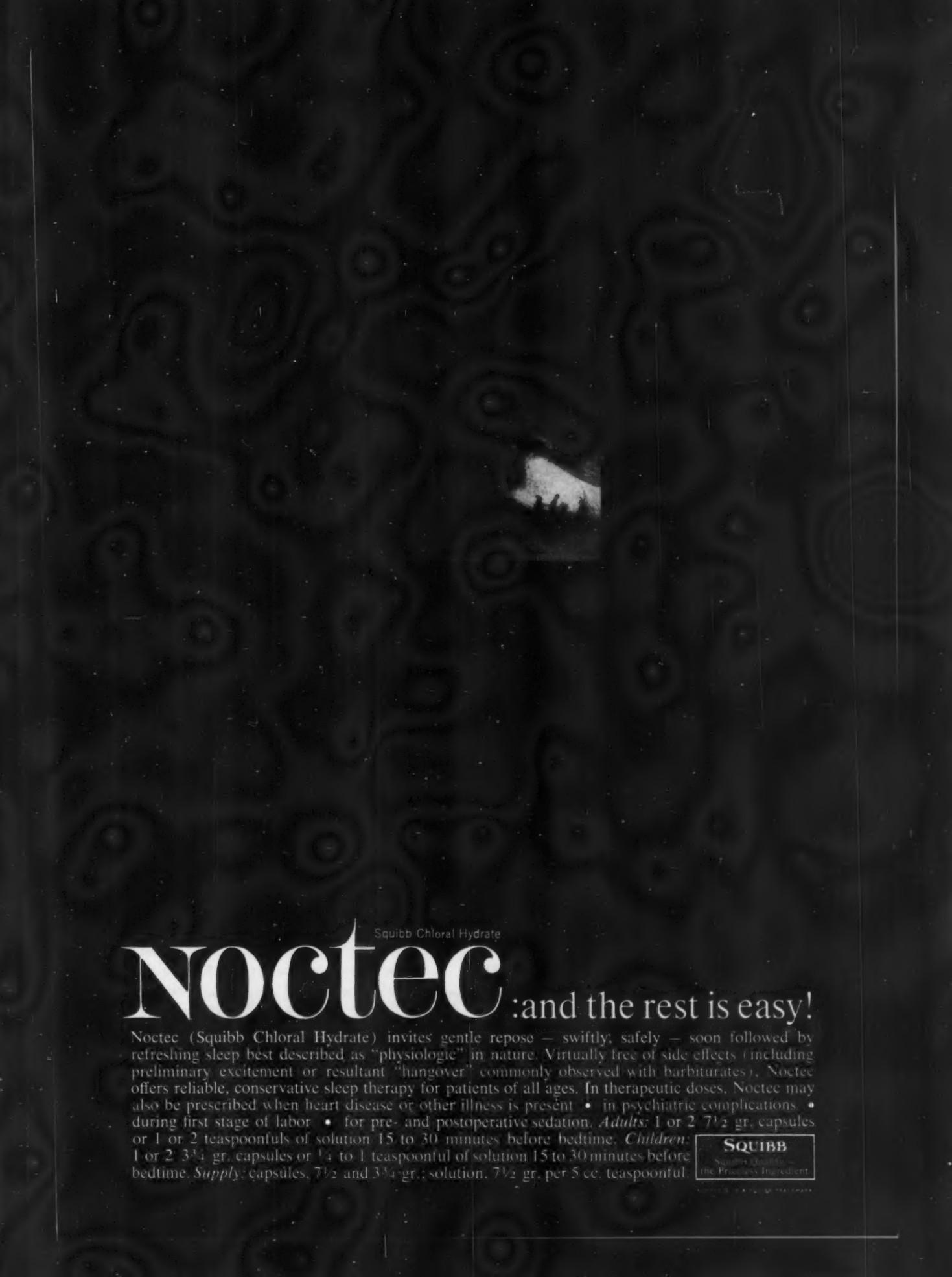
● **Columbia Gas** serves a vital area reaching from the Atlantic seaboard through the Appalachian region to most of Ohio. Operations are further integrated by a system-owned pipeline that ties in with controlled Gulf Coast gas reserves. Some progress is being made in settling the complex rate proceedings. The company is also paying large contingent increases in the cost of purchased gas, on which it may obtain a partial refund when suppliers' rates are finally determined. Subject to the outcome of these proceedings, earnings for 1960 are estimated at \$1.45 a share, up from \$1.40 on fewer shares in 1959. A favorable over-all rate settlement could pave the way for an increase in the \$0.25 quarterly dividend. Longer-term prospects are basically favorable,

as exemplified by a direct retail load growth of about 36,000 new customers a year and increasing sales of gas to other utilities for resale, projected over the next several years. *This stock is recommended for income and has a potential for capital gains.*

● **Dow Chemical** has an outstanding growth record in the chemical field. Its product line ranges from heavy chemicals to specialties and includes plastics, textile fibres, films, and agricultural chemicals. It is fully integrated and has an exceptionally strong position in raw materials. It is the only producer of any significance in magnesium, and its role in metals is being extended. Volume of major product lines is expected to remain at favorable levels over coming months, with synthetic organics continuing to be the fastest growing area. Margins, however, are under pressure from lower prices on some plastics. Dividends should continue at \$0.35 quarterly; payment of a small stock extra is likely. *The issue is a suitable vehicle for participation in the growth of the chemical industry.*

● **General Foods** is by far the largest company in the packaged foods field. The continued introduction of new products and aggressive promotion of the basic line have been reflected in a persistent uptrend in sales and earnings in recent years. Both earnings and dividends have more than doubled since fiscal 1952. Prospective larger over-all volume, further operating efficiencies, and extension of the new distribution setup favor a new earnings peak for the current fiscal year to end next March 31; profits in 1959-60 were \$4.96 a share. The quarterly dividend was increased to \$0.70 from \$0.65 with the June 3, 1960, payment.

These high-grade shares (to be split 2-for-1)



Squibb Chloral Hydrate

Noctec®: and the rest is easy!

Noctec (Squibb Chloral Hydrate) invites gentle repose — swiftly; safely — soon followed by refreshing sleep best described as "physiologic" in nature. Virtually free of side effects (including preliminary excitement or resultant "hangover" commonly observed with barbiturates), Noctec offers reliable, conservative sleep therapy for patients of all ages. In therapeutic doses, Noctec may also be prescribed when heart disease or other illness is present • in psychiatric complications • during first stage of labor • for pre- and postoperative sedation. *Adults:* 1 or 2 $7\frac{1}{2}$ gr. capsules or 1 or 2 teaspoonfuls of solution 15 to 30 minutes before bedtime. *Children:* 1 or 2 $3\frac{1}{4}$ gr. capsules or $\frac{1}{4}$ to 1 teaspoonful of solution 15 to 30 minutes before bedtime. *Supply:* capsules, $7\frac{1}{2}$ and $3\frac{1}{4}$ gr.; solution, $7\frac{1}{2}$ gr. per 5 cc. teaspoonful.

SQUIBB

Squibb Quality
the Precious Ingredient

afford a small but secure income return and offer further appreciation possibilities over the longer term.

● *International Business Machines*, despite increasing competition, remains by far the dominant factor in the rapidly expanding electronic data processing field. A steady stream of new, highly advanced products attests the excellence of the company's research and development program. Additionally, IBM's mar-

keting operation is considered to be the best in the industry by a wide margin. Revenues from sales, service and rentals in 1960 are expected to rise another new peak comfortably in excess of \$1.4 billion. Share earnings also seem likely to climb to a new high in the \$9.25-\$9.50 range from \$7.97 in 1959. *While the shares are extremely liberally priced in relation to current earnings, they are still a sound investment for those primarily interested in long-term capital appreciation.*

FROM COAST TO COAST



Recent acquisitions and a continuing demand uptrend this year are expected to lift 1960 sales of **BURNDY CORPORATION** to around \$36 million for a 20% year-to-year gain. With margins improved by manufacturing economies, share profits could advance to about \$1.25 from 1959's \$0.84. Well entrenched in the burgeoning field of solderless electrical connectors, volume growth should continue, paralleling the trend in the electrical and electronics businesses. . . . **MCLOUTH STEEL** has booked considerable export business to tide it over the usually lean summer months and output may run at 80% of capacity through the third quarter. . . . Business is exceptionally good for **TOBIN PACKING**, with tonnage shipped thus far this year up about 11%. Earnings for the fiscal year ending October 31 may run as high as \$2.30 a share, despite write-offs on certain Buffalo facilities, compared with \$1.93 in 1958-59.

Profits of **MESTA MACHINE** should at least duplicate the \$5.21 a share of 1959, and could improve upon this figure if a big job now in process can be completed by the end of the year. The backlog has risen approximately 50% since January 1, and is said to be ade-

quate to support operations for 12 months ahead. The current lull in steel has not slowed inquiries, reflecting the industry's constant search for labor-saving equipment. . . . Participation by **SUNDSTRAND CORP.** in the missile program does not appear important enough to offset the decline in military aircraft equipment. Future prospects hinge on the company's ability to introduce new lines; in this connection, 1960 earnings may dip to around \$1.75 a share, from \$2.36 last year, largely as a result of accelerated research and development.

GENERAL AMERICAN TRANSPORTATION, which has increased its dividend in each of the past seven years, is expected to maintain its record by boosting its rate again this year, possibly from \$2.10 to \$2.30. Profits are headed for a new peak, topping by a comfortable margin the previous high of \$3.30 a share established in 1957. Last year's net was \$3.10 a share. . . . **VAN RAALE Co.** is another candidate for a dividend increase late this year. The \$2 annual rate, in force since 1956, will be widely covered by earnings, which are estimated at \$3.90 a share against \$3.64 in 1959. . . . Pretax net of **RELIANCE MFG.** will show an encouraging rise this year, but final results will be down from the tax-free \$3.09 a share of 1959, because of the full corporate tax liability. A range of \$2.25-\$2.50 a share is indicated.

A combination of factors is preventing the profits improvement previously anticipated for **Joy MFG.** Capital expenditures by the coal industry, the major customer, have been cut

BUY INTO AMERICA'S NEXT UPWARD SURGE OF PROFITS WITH THESE 5 KEY STOCKS

When you buy these 5 great diversified companies you buy into America's coming new profits boom because they are engaging in and *profiting* in 31 of the Nation's most promising industries! Special study shows how to protect your portfolio and set the stage for exciting long-term capital gain potential through buying the 5 stocks in the following ratio (buy more or fewer shares of each, if you prefer, but maintain these proportions):

STOCK #1	10 SHARES
STOCK #2	35 SHARES
STOCK #3	40 SHARES
STOCK #4	15 SHARES
STOCK #5	35 SHARES

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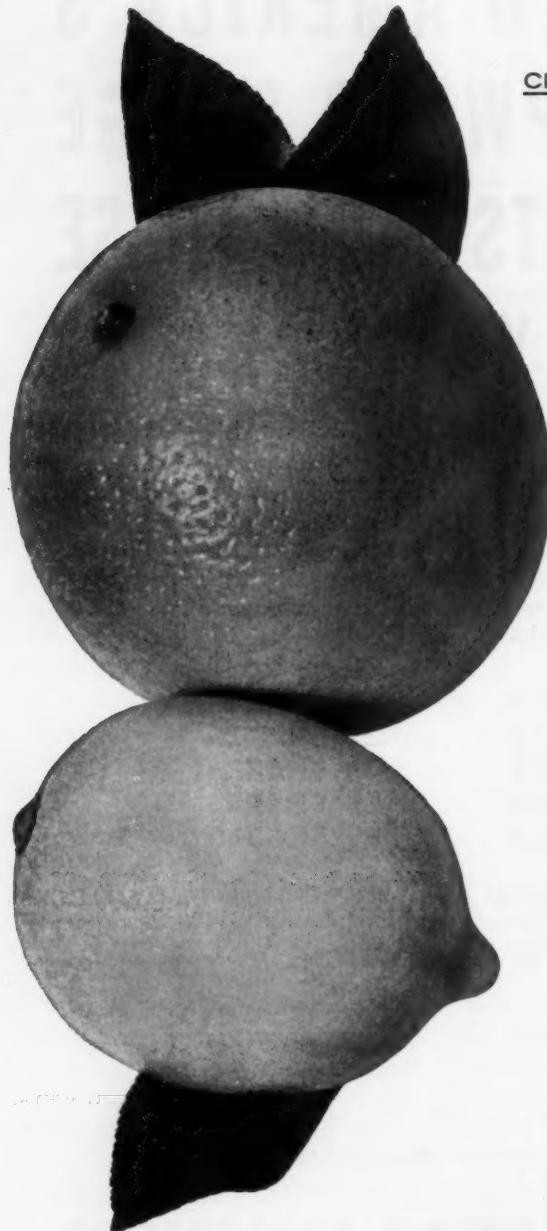
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cellular
metabolism
accompanies
stress
conditions

Hesperidin, Hesperidin Methyl Chalcone, or Lemon Bioflavonoid Complex are prescribed as therapeutic adjuncts for control of abnormal cellular activity, and capillary and vascular damage associated with many stress conditions.

These stress conditions may be caused by nutritional deficiencies, environment, drugs, chemicals, toxins, virus or infection.

SUNKIST AND EXCHANGE BRAND *Lemon Bioflavonoid Complex* and *Hesperidins* are available to the medical profession in specialty formulations developed by leading pharmaceutical manufacturers.

**Sunkist
Growers**

PRODUCTS SALES DEPARTMENT
PHARMACEUTICAL DIVISION
Ontario, California

Maintenance of Capillary Integrity

Incidence of impaired capillary function is more frequent than previously recognized. Many publications indicate the frequency of increased capillary weakness ranges from 16% to as high as 80% of patients examined (1-4).

Reports show older people have a high incidence of capillary fragility (6). In a group of 111 patients, capillary weakness was noted to be greatest in the fifth and sixth decades (5).

Hypertensives (7, 8, 9) and those with chronic diseases such as arteriosclerosis, diabetes and rheumatoid arthritis, have shown varying degrees of capillary involvement. Hemorrhagic conditions of the brain and heart have shown localized injury in the capillary (10, 11).

Capillary fragility has been shown to be associated with many bacterial, viral and inflammatory diseases (12-23).

Various bioflavonoid materials have been evaluated for their effect upon the capillary. Degree of fragility has been determined by numerous procedures (24-30).

The therapeutic rationale of combining *Hesperidin* or other *citrus bioflavonoids* with ascorbic acid or other therapeutic agents is based on the premise that capillary weakness may be a contributing factor to the disease state and that capillary integrity should be maintained. *Citrus bioflavonoids* in conjunction with ascorbic acid appear to enhance the efficacy of other therapy, and help control such factors as infection, stress and nutritional deficiency even in cases not showing capillary weakness.

NOTE: For bibliography (B-701) write Sunkist Growers, Pharmaceutical Division, 720 E. Sunkist Street, Ontario, California.

back in recent months, and demand from the oil industry for drilling tools and equipment has been lower. Also, severe competition for available business has resulted in narrower profit margins. Thus, earnings for the fiscal year ending September 30 are unlikely to show little change from the \$2.81 a share of fiscal 1959. . . . Profits of STANLEY WARNER for the fiscal year ending August 31 may show a dip to \$1.80 a share from \$2.38 the year before, but prospects for the coming year seem more promising.

MUSHROOMING

PENSION FUNDS



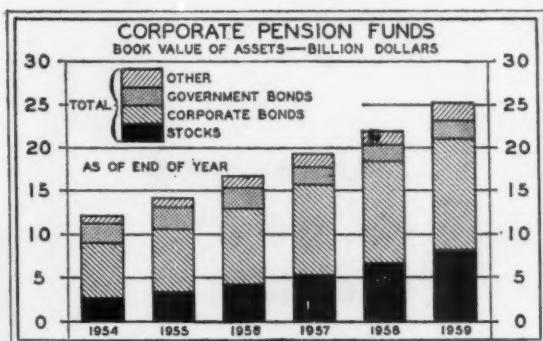
● **Strong Income Flow**—Corporate pension funds, according to latest SEC statistics, continue to grow at a vigorous pace. Their net receipts last year rose to \$3.18 billion from \$2.77 billion in 1958 and \$2.12 billion in 1955. Total receipts came to \$4.06 billion vs. \$3.50 and \$2.58 billion, respectively. That's quite a strong flow of income, and it has been pushing the funds' assets to record highs, creating investment problems with important future connotations particularly in the field of stock investment. Also, pension funds have become an increasingly significant market factor, importantly influencing the supply-demand balance.

● **How They Invest**—That's because more and more funds are being channeled into stocks. The book value of total assets at the 1959 year-end reached the huge amount of \$25.30 billion, up from prior year's \$22.09 billion and only \$6.87 billion in 1951. Of the latest total, \$7.71 billion or 30.5% was invested in common stocks, comparing with the preceding year's \$6.04 billion or 27%. Corporate bonds accounted for \$12.79 billion or 50.5%, and compared with \$11.73 billion in 1958; Government securities for \$2.15 billion (8.5%) vs. \$1.98 billion. Miscellaneous investments in-

cluding preferred stocks (2.6%), mortgages, cash and deposits made up the remaining \$2.65 billion, against \$2.34 billion in 1958.

● **Largest Institutional Stock Buyer**—Revealing from a market standpoint is the fact that net purchases of common stocks in 1959 came to \$1.57 billion, or about 50% of entire net receipts. Corresponding 1958 figures were \$1.19 billion and 43%. This again makes corporate pension funds the largest single institutional buyer of equities. In contrast, there was a slowing down in the growth of holdings of corporate bonds. The proportion of net receipts invested in common stock was especially large for funds in the oil, automobile, communications and trade industries, proof that more and more funds are getting aboard the "common stock" bandwagon. The favorite area of investment was the manufacturing field.

● **Mounting Stake in Industry**—As in the past, pension funds last year were important suppliers of funds in the capital market. Not only did they buy more stock than any other group, but their acquisitions in 1959 were equivalent to 38% of net new equity issues. That compares with 32% in 1958, 28% in 1957, and approximately 24% in each of the years 1954-56, revealing a strongly rising trend. Still,



despite their large acquisitions, pension funds currently own only about 3% of all outstanding stock of American corporations. That's a small percentage of a huge total, but the total stake in industry is mounting steadily despite a recent slowing in the percentage rate of asset growth. In 1959, the percentage increase for all funds was 14½%, about the same as in 1958 when the growth of many funds was affected by the business recession. The peak annual growth rate was 22% in 1953. While it may not be duplicated soon, or ever, continuing growth is assured, and thereby the steadily rising importance of private pension funds as a social, financial and market factor.

STOCK DIVIDENDS TOP LAST YEAR'S PEAK

*Uptrend Continuing, with First-Half Total at New Record High—
Popular with Corporations Desiring to Conserve Cash*

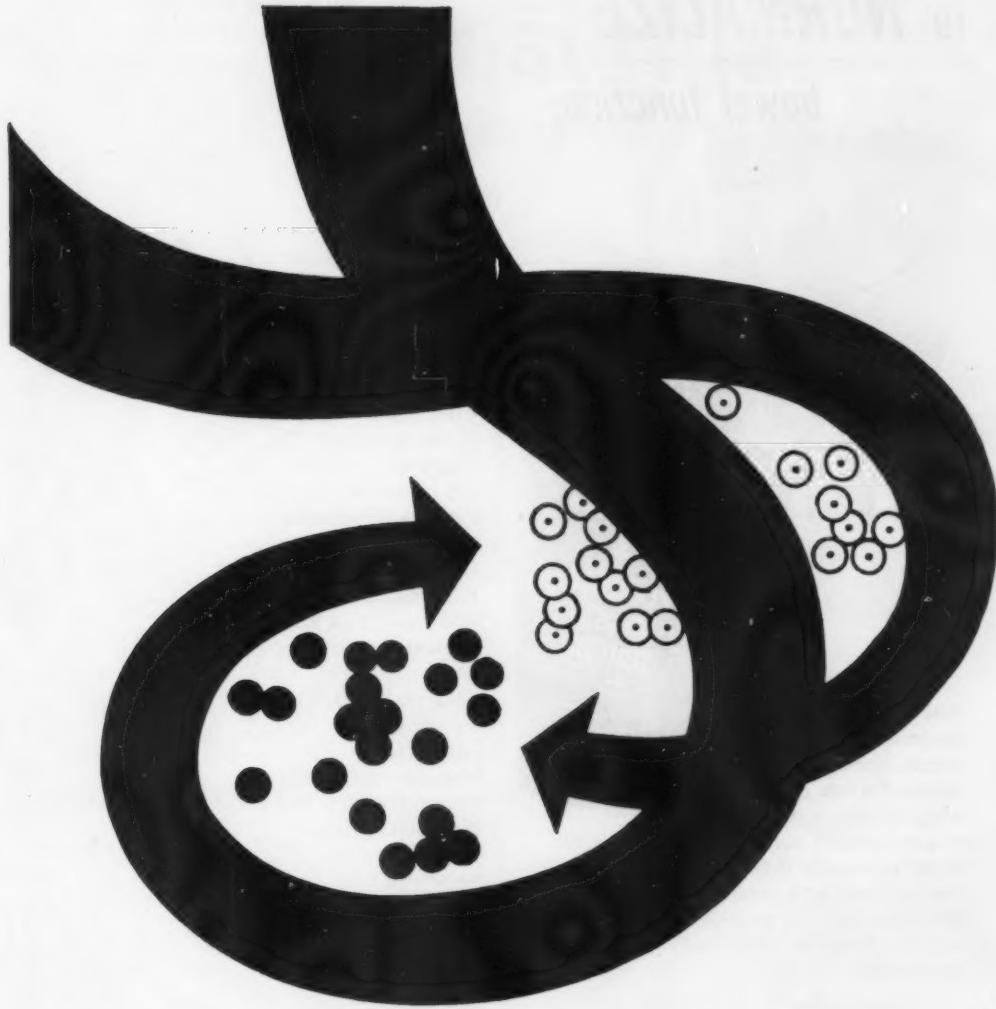
Corporations continue to make extensive use of stock dividends, a practice that has become increasingly popular in recent years. According to S. & P. records, such disbursements reached a new peak in 1959, rising to 502 from 359 in 1958 when recession influences fostered more conservative dividend policies.

So far this year, the trend continued strongly upward. During the first half of 1960, 327 companies made payments of this type, establishing a new high for the period. This compared with 243 in the first half of 1959, which in turn was well up from 177 in 1958, 222 in

1957, 210 in 1956, and 157 in 1955, all for the corresponding half-year periods.

Despite less favorable underlying conditions, there were 55 stock dividends of 25% or more, against 37 in the first half of 1959 and only six the year before. Payments of this size are tantamount to stock splits, made for the purpose of bringing the price of the shares down to a more popular price range.

Since stock dividends enable companies to conserve cash for expansion and other purposes, they are likely to retain their popularity during the balance of the year. Many investors, too, prefer them to cash payments, for they possess



**Now...the only
Nystatin combination
with extra-active**

DECLOMYCIN®
Demethylchlortetracycline

DECLOSTATIN®

*with extra-broad spectrum benefits:—
action at lower milligram intake...broad-
range action...sustained peak activity...
extra-day security against resurgence of
primary infection or secondary invasion.*

CAPSULES, 150 mg. DECLOMYCIN Demethylchlortetracycline HCl and 250,000 units Nystatin.
DOSAGE: average adult, 1 capsule four times daily.

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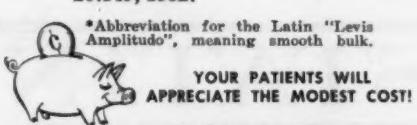
to NORMALIZE bowel function;



It has been shown¹ that the colon resumes a more normal peristaltic pattern² when it is supplied with a stool of medium soft consistency of sufficient bulk,³ especially if the indigestible portion of that bulk consists primarily of hemicellulose.⁴ To provide smooth bulk —L. A. Formula—effective,⁵ palatable, economical.

1. Dolkart, Dentler & Barrow, Ill. Med.J., 90:286, 1946
2. Adler, Atkinson & Ivy, Am.J. Digest.Dis. 8:197, 1941
3. Wozasek & Steigman, Am.J. Digest.Dis. 9:423, 1942
4. Williams & Olmstead, Ann.Int. Med. 10:717, 1936
5. Cass & Wolf, Gastroenterology, 20:149, 1952.

*Abbreviation for the Latin "Levis Amplitudo", meaning smooth bulk.



made since 1932 by

BURTON, PARSONS & COMPANY

Originators of Fine Hydrophilic Colloids

WASHINGTON 9, D. C.

COMPANIES PAYING STOCK DIVIDENDS WITH SOME REGULARITY

Figures in parentheses indicate number of years in past five in which stock dividends were paid.

ADDRESSOGRAPH-MULTI	(5)
AEROQUIP CORP.	(4)
AMERICAN STORES	†(5)
ARGO OIL	‡(5)
AUSTIN, NICHOLS	†(5)
AUTOMATIC CANTEEN	(4)
BABCOCK & WILCOX	(5)
BLAW-KNOX	(5)
BROWN-FORMAN DIST.	(4)
BUSH TERMINAL	†(5)
CALIFORNIA PACKING	†(5)
CERRO DE PASCO	†(5)
CHIC. GREAT WESTERN	†(5)
CITIES SERVICE	†(5)
CITIZENS UTILITIES	†(5)
COLUMBIA BROADCAST	(5)
COLUMBIA PICTURES	†(5)
COMMONWEALTH EDISON	*(2)
DOW CHEMICAL	(4)
FANSTEEL METALL.	(5)
FIRESTONE TIRE & RUBBER	(3)
GENERAL AMER. OIL	(5)
GEORGIA-PACIFIC	†(5)
GOODYEAR TIRE	(4)
GRAND UNION	†(5)
GULF OIL	(5)
HOUSEHOLD FINANCE	(4)
INTERNATL. BUS. MACH.	(5)
INTERNATL. PAPER	(5)
MAGNAVOX CO.	(5)
MASONITE CORP.	†(5)
MCDONNELL AIRCRAFT	†(5)
MIDWEST OIL	‡(5)
MISSION CORP.	‡(3)
MONSANTO CHEM.	(4)
NATIONAL GYPSUM	†(5)
NATL. MALLEABLE	(3)
PITNEY-BOWES	(4)
PITTSTON CO.	†(5)
PLYMOUTH OIL	(5)
PUBLICER INDUSTRIES	†(5)
ROHM & HAAS	(5)
SHERATON CORP.	(5)
SIGNAL OIL & GAS	(5)
SPALDING (A.G.) MFG.	†(5)
STALEY (A.E.) MFG.	(5)
STANDARD OIL (IND.)	‡(5)
STEWART-WARNER	(4)
SUN OIL	(5)
TIDEWATER OIL	†(5)

[†]Stock dividends also paid or declared thus far in 1960.

[‡]Payments solely in stock; no cash dividends. ^{*}Stock dividends in shares of another company. [†]Pays stock dividends on series A shares at rate equal to value of cash payments on series B. [‡]Company in 1958 initiated a policy of distributing a year-end stock extra.

a breathing spell from asthma

Quadrinal*

a rapid way to clear the airway

- stops wheezing
- Increases cough effectiveness
- relieves spasm

In chronic disorders associated with obstructed respiration, the dependable antispasmodic and expectorant action of Quadrinal rapidly clears the bronchial tree. Patients breathe more easily and acute episodes of bronchospasm are often eliminated. Quadrinal is well tolerated, even on prolonged administration. The potassium iodide in Quadrinal provides an expectorant of time-tested effectiveness and safety.

Indications: Bronchial asthma, chronic bronchitis, pulmonary fibrosis, pulmonary emphysema.

Quadrinal Tablets, containing ephedrine HCl (24 mg.), phenobarbital (24 mg.), "Phyllcin"® (theophylline-calcium salicylate) (130 mg.), and potassium iodide (0.3 Gm.).

Also available—

a new Quadrinal dosage form with taste-appeal for all age groups:
fruit-flavored QUADRINAL SUSPENSION (1 teaspoonful = 1/2 Quadrinal Tablet)

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*Quadrinal, Phyllcin®



GUIDE FOR INVESTORS

Based on recommendations of the Securities and Exchange Commission in cooperation with the New York Stock Exchange, American Stock Exchange, National Association of Securities Dealers and others.

1. Think before buying, guard against all high pressure sales.
2. Beware of promises of quick spectacular price rises.
3. Be sure you understand the risk of loss as well as prospect of gain.
4. Get the facts—do not buy on tips or rumors.
5. Give at least as much thought when purchasing securities as you would when acquiring any valuable property.
6. Be skeptical of securities offered on the telephone from any firm or salesman you do not know.
7. Request the person offering securities over the phone to mail you written information about the corporation, its operations, net profit, management, financial position and future prospects.

certain tax advantages. Additionally, if retained, periodic stock dividends result in a steady build-up of invested positions.

A stock dividend is not to be treated as income if, after distribution, the stockholder has the same proportionate interest in the corporation as before, according to legal interpretation. That will apply in most cases, and where it does, the stock dividend can be used to write down the average cost of the investment. Provided it is held longer than six months, any future profit from sale of the stock is subject to the capital gains tax of no more than 25%, obviously a decided advantage to investors in high tax brackets.

Less subject to fluctuation are, of course, the small stock payments made periodically in accordance with established policy, usually in addition to but sometimes in lieu of cash dividends. They offer this dual advantage: (1) Usually, companies maintain the same rate of cash dividends per share on the increased capitalization, resulting in a larger aggregate return to the shareholder. (2) Issues paying periodic stock dividends often enjoy a higher market standing than similar stocks on which no such distributions are made.

For investors partial to stock dividends, the most important consideration is, of course, their future value. Unless a company's growth proceeds at a rate in excess of the rise in share capitalization, the benefit of stock dividends will be nullified in time of equity dilution.

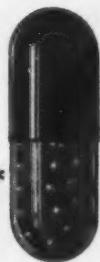
A number of companies, such as those listed in the table below, have been paying stock dividends with sufficient regularity to suggest an established practice. Such distributions help to compensate for frequently low cash yields, notably in the case of stocks where the major portion of earnings is being plowed back.

**BULOVA'S ELECTRONIC
WATCH READY SOON**



Having overcome complex production problems, BULOVA WATCH will soon be in a position to produce its new electronic watch in

Hard filled
capsules in
bottles of 30.



4 mg.

Medrol^{*} Medules[†]

pH-patterned
slow release ...

not here
at pH 1.2

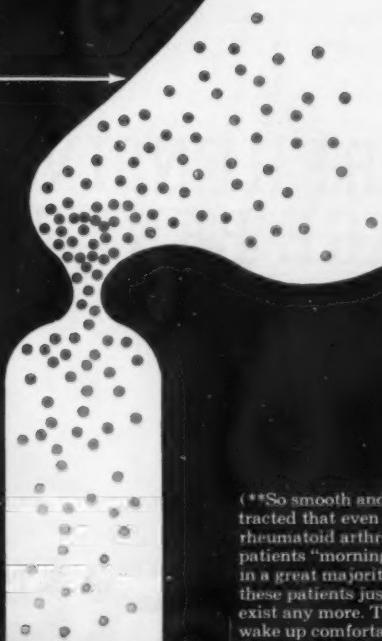
In the relatively acid medium of the fasting stomach, Medules are kept essentially intact by their special pH-sensitive coating (about 5% of Medrol content released in 2 hours at pH 1.2).

but here
at pH 7.5

In the environment of the duodenum (at pH of approximately 7.5) 90% to 100% of the Medrol content is released within 4 hours.

...means
gradual steroid
absorption

135 tiny
doses mean
smoother^{**}
steroid
therapy



(**So smooth and protracted that even among rheumatoid arthritis patients "morning stiffness in a great majority of these patients just doesn't exist any more. They wake up comfortable." Loppa, N. Y.: Curr. Therap. Res. 2:177 (June) 1960.)

Medrol hits the disease,
but spares the patient

*Trademark, Reg. U. S. Pat. Off.—
methylprednisolone, Upjohn
†Trademark

Upjohn

The Upjohn Company
Kalamazoo, Michigan

quantity. Although the price will be high, there is believed to be sufficient demand to put this new product on a money-making basis in a year or so. Meanwhile, introductory costs and higher advertising expenses probably will cause profits for the fiscal year ending March 31, 1961, to fall below the \$1.37 a share of the previous year. Although watch volume in fiscal 1960 advanced sharply and still accounts for more than 60% of sales and profits, the

largest gains were experienced by the electronics division, for which further progress is indicated this year. The recent trade agreement with the Citizen Watch Co. of Tokyo was designed to assure a major source of supply outside of the U. S. and to afford an entry into the lower-priced field, in which the greatest growth is envisaged. *Paying \$0.15 quarterly, this stock is essentially a speculation on the success of the new electronic watch.*



LIFE STOCKS FAIRLY PRICED

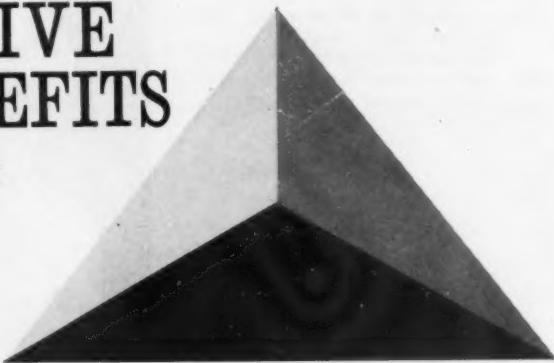
Earlier Over-Optimism and New Tax Load Discounted—Earnings in Renewed Growth Trend—Long Term Gain Potentials Good

Life insurance stocks apparently have completed the readjustment from (1) the speculative boom that culminated in 1955, and (2) the

sharp increase in taxes on earnings effected in 1958. The shares failed to participate in the 1959 stock market rise, and their decline in the first half of 1960 was 7.5%, against 5.0% for the 500-stock index. Having become more reasonably priced in relation to current

COMPREHENSIVE OLD AGE BENEFITS

- ▲ brightens the outlook
- ▲ lightens the load of poor nutrition
- ▲ heightens tissue/bone metabolism



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1 small capsule every morning

Geriatic Vitamins-Minerals-Hormones-d-Amphetamine Lederle

Each capsule contains: Ethinyl Estradiol 0.01 mg. • Methyl Testosterone 2.5 mg. • d-Amphetamine Sulfate 2.5 mg. • Vitamin A (Acetate) 5,000 U.S.P. Units • Vitamin D 500 U.S.P. Units • Vitamin B₁₂ with AUTRINIC® Intrinsic Factor Concentrate 1/15 U.S.P. Unit (Oral) • Thiamine Mononitrate (B₁) 5 mg. • Riboflavin (B₂) 5 mg. • Niacinamide 15 mg. • Pyridoxine HCl (B₆) 0.5 mg. • Calcium Pantothenate 5 mg. • Choline Bitartrate 25 mg. • Inositol 25 mg. • Ascorbic Acid (C) as Calcium Ascorbate 50 mg. • L-Lysine Monohydrochloride 25 mg. • Vitamin E (Tocopherol Acid Succinate) 10 Int. Units • Rutin 12.5 mg. • Ferrous Fumarate (Elemental Iron, 10 mg.) 30.4 mg. • Iodine (as KI) 0.1 mg. • Calcium (as CaHPO₄) 35 mg. • Phosphorus (as CaHPO₄) 27 mg. • Fluorine (as CaF₂) 0.1 mg. • Copper (as CuO) 1 mg. • Potassium (as K₂SO₄) 5 mg. • Manganese (as MnO₂) 1 mg. • Zinc (as ZnO) 0.5 mg. • Magnesium (MgO) 1 mg. • Boron (as Na₂B₄O₇.10H₂O) 0.1 mg. Bottles of 100, 1000.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

CHYMORAL PRODUCED GOOD TO EXCELLENT RESULTS IN 8 OUT OF
EVERY 10 CASES WITH NO REPORTED TOXICITY OR SIDE EFFECTS¹⁻⁴

condition	no. of cases	excellent/good	fair	no response
contusions, lacerations, miscellaneous trauma	164	137	19	8
fractures, sprains & strains	64	44	14	6
TOTAL	228	181	33	14

CONTROLLED INFLAMMATION... CURTAILED SWELLING... CURBED PAIN

**Chymoral cuts healing time where
inflammatory complications prolong
the clinical course**

Chymoral, a new *ORAL anti-inflamatory enzyme tablet* formulated especially for intestinal absorption, prevents or reduces inflammation of all types through systemic action . . . hastens absorption of blood and lymph extravasates (except of cardiorenal origin) . . . markedly and rapidly alleviates pain. The recommended dose of 2 tablets q.i.d. assures the patient of 400,000 units of enzymatic activity daily.

Each Chymoral tablet provides enzymatic activity equivalent to 50,000 Armour Units, supplied by a purified concentrate which has specific trypsin and chymotrypsin activity in a ratio of approximately six to one. Bottles of 48 tablets.

1. Billow, B. W., et al.: Southwestern Med. 41:286, (May) 1960.
2. Teitel, L. H., et al.: Indust. Med. 29:150 (April) 1960.
3. Beck, C., et al.: Clin. Med. 7:519 (March) 1960.
4. Clinical Reports to the Medical Dept., Armour Pharmaceutical Co., 1959.

**in
accidental
or
surgical trauma**

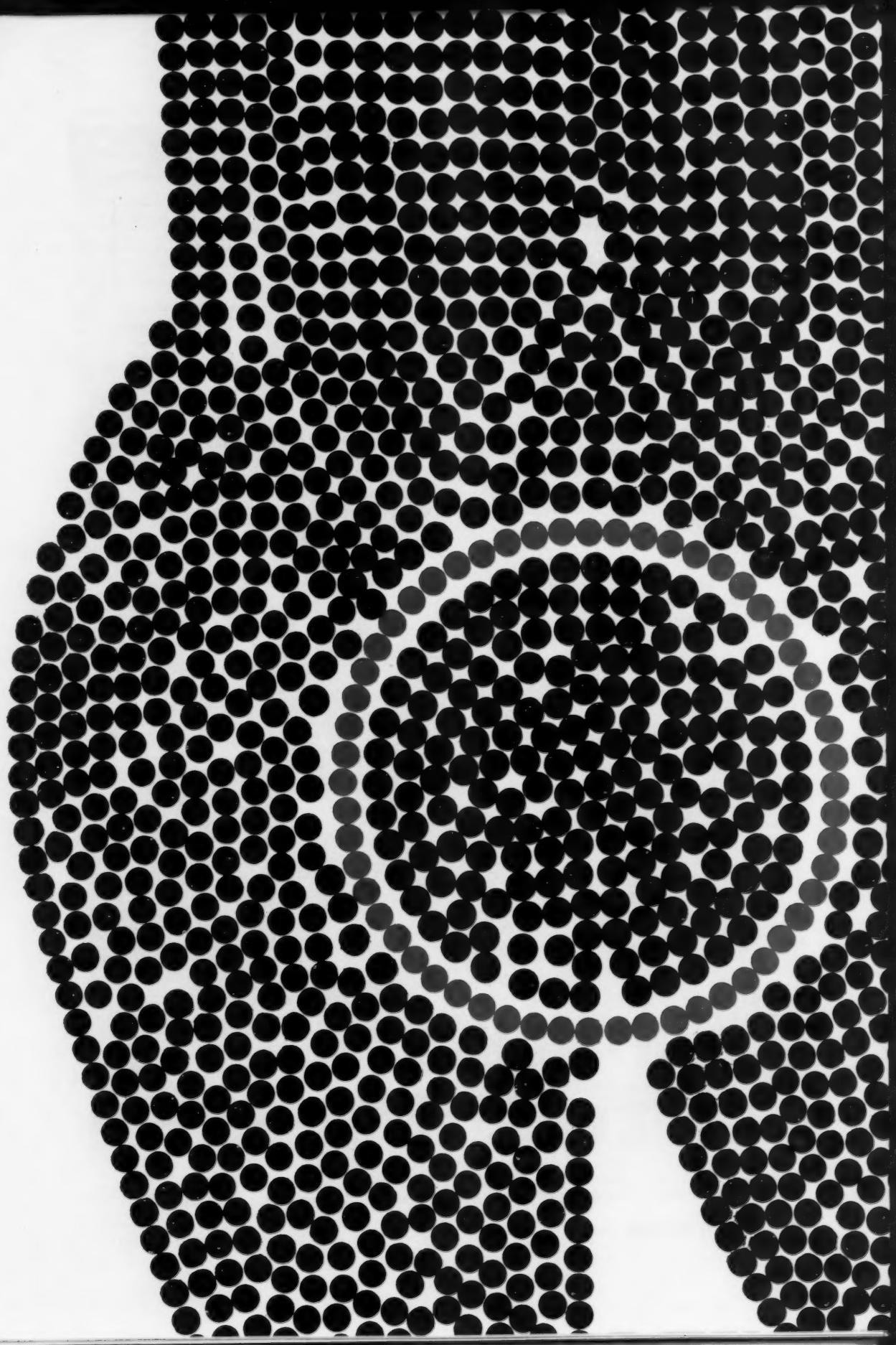


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CONSISTENT RESPONSE IN VAGINAL INFECTIONS

**ANTIBACTERIAL, ANTIMONILIAL, ANTITRICHOMONAL EFFECTS—
OPTIMAL DISPERSION, PROLONGED RETENTION**

**85% SUCCESS:^{1,2} TRIBURON CHLORIDE—THE CLINICALLY PROVEN
MICROBICIDE—PROVIDES RAPID SYMPTOMATIC RELIEF AS WELL
AS MICROBICIDAL CONTROL OF TRICHOMONAL, MONILIAL AND
NONSPECIFIC VAGINITIS. IN ONE STUDY, DISCHARGE, ITCHING AND
BURNING DISAPPEARED IN 67 OF 73 WOMEN AFTER ONLY
3 OR 4 APPLICATIONS; AFTER TWO WEEKS, CULTURES WERE
NEGATIVE IN 61 PATIENTS. SIMILAR RESULTS WERE NOTED IN
ANOTHER SERIES OF 55 WOMEN.²**

NOW AVAILABLE IN TWO FORMS

**NEW TRIB VAGINAL SUPPOSITORIES PROVIDE THE
EFFICACY OF TRIBURON CHLORIDE IN A WATER-SOLUBLE,
SELF-EMULSIFYING BASE THAT ENHANCES DISPERSION AND
PROLONGS THERAPEUTIC EFFECTS, EVEN IN THE PRESENCE
OF PROFUSE DISCHARGE. TRIB VAGINAL SUPPOSITORIES ARE
PROVIDED WITH REUSABLE PLASTIC APPLICATORS.**

**WIDELY ACCEPTED TRIBURON VAGINAL CREAM—SMOOTH,
WHITE, NONSTAINING, VIRTUALLY NONIRRITATING TO THE
VAGINAL MUCOSA, WITH NO HINT OF MEDICINAL ODOR.
DISPOSABLE APPLICATORS ARE SUPPLIED WITH THE CREAM.**

INDICATIONS: TRIB VAGINAL SUPPOSITORIES AND TRIBURON VAGINAL CREAM FOR
VULVITIS AND VAGINITIS DUE TO TRICHOMONAS VAGINALIS, CANDIDA ALBicans,
HEMOPIHLUS VAGINALIS AS WELL AS MIXED INFECTIONS; AFTER CAUTERIZATION,
CONIZATION AND IRRADIATION; FOR SURGICAL AND POSTPARTUM TREATMENT.
THERAPY MAY BE CONTINUED DURING PREGNANCY AND MENSTRUATION.

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TRIBURON VAGINAL CREAM—3-OUNCE TUBES WITH 10 DISPOSABLE APPLICATORS.
CONSULT LITERATURE FOR DOSAGE REQUIREMENTS, AVAILABLE ON REQUEST, BEFORE
PRESCRIBING.

REFERENCES: 1. N. NULLA AND J. J. McDONOUGH, ANN. NEW YORK ACADE. SC., 82(ART. 1),
162, 1959. 2. L. E. SAVEL, D. B. GERSHENFELD, J. FINKEL AND P. DRUCKER, IBID., P. 186.



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contains Triburon Chloride 0.1%

Triburon® Vaginal Cream

decisive microbicidal therapy in a delicate matter
not an antibiotic • not a nitrofuran

easier swallowing after T & A



Xylocaine Viscous provides quick-acting and prolonged surface anesthesia for sore and painful throats, particularly those occurring after tonsillectomy and adenoidectomy. Its cherry-flavored, water-soluble vehicle spreads evenly and adheres intimately to the membranes. Nonirritating and nonsensitizing. Dose: 1 teaspoonful, swished around in the mouth and then swallowed slowly.

Write for additional information regarding other uses which include management of hiccup and reflex vomiting, as well as relief of discomfort associated with laryngoscopy, esophagoscopy, gastroscopy and the passage of esophageal and gastric tubes.

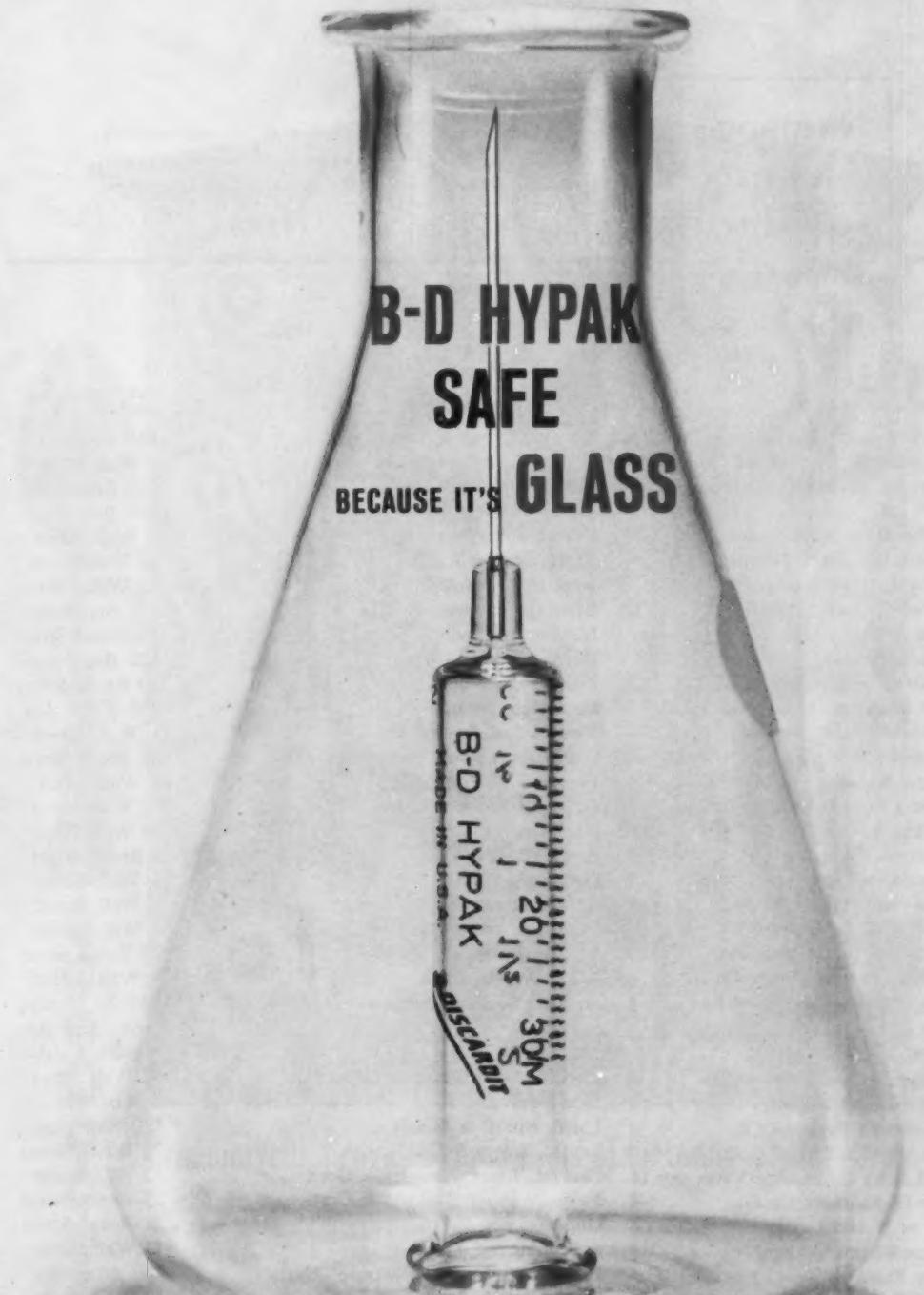


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(brand of lidocaine®)
for better doctor-patient relationship

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AVAILABLE**

Material concerning the following industries and corporations is available on request from the firms indicated. You can do us a favor if you mention Medical Times as the source of your information.

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Cremomycin_® provides rapid relief of virtually all diarrheas

NEOMYCIN—rapidly bactericidal against most intestinal pathogens, but relatively ineffective against certain diarrhea-causing organisms.

SULFASUXIDINE (succinylsulfathiazole)—an ideal adjunct to neomycin because it is highly effective against Clostridia and certain other neomycin-resistant organisms.

KAOLIN AND PECTIN—coat and soothe the inflamed mucosa, adsorb toxins, help reduce intestinal hypermotility, help provide rapid symptomatic relief.

For additional information, write Professional Services, Merck Sharp & Dohme, West Point, Pa.



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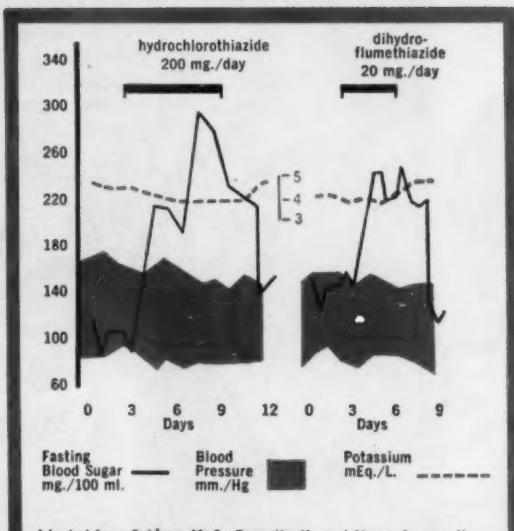
can treatment of hypertension with thiazide diuretics either precipitate or aggravate diabetes?

In susceptible patients, thiazide derivatives may unmask a prediabetic state or aggravate existing diabetes. Fatigue and polyuria—with or without glycosuria—may be due to diabetes as well as to potassium loss and diuresis. This phenomenon is readily reversible and does not contraindicate the use of thiazides in hypertensive diabetics, but does warrant close supervision of all such patients to avoid impairment of their diabetic control.

Source:

Goldner, M. G.; Zarowitz, H., and Akgun, S.: New England J. Med. 262:403, 1960.

EFFECT OF THIAZIDE THERAPY ON SUSCEPTIBLE DIABETIC PATIENT



Adapted from Goldner, M. G.; Zarowitz, H., and Akgun, S.: op. cit.

*for initial detection and continual control of diabetes
...especially essential during oral hypoglycemic therapy*

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STANDARDIZED URINE-SUGAR TEST

- ✓ *standardized spectrum of reaction colors*—prevents misinterpretation of results*
- ✓ *standardized sensitivity facilitates diagnosis*—avoids misleading trace reactions
- ✓ *standardized readings differentiate 1/4%, 1/2%, 3/4%, 1% and 2% or over*—only test clearly indicating glucose concentration over 2%*

*Ackerman, R. F.; Williams, E. F., Jr.; Packer, H.; Hawkes, J. H., and Ahler, J.: Diabetes 7:398, 1958.

added safety for DIABETIC CHILDREN

guard against ketoacidosis... test for ketonuria

ACETEST® Reagent Tablets
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for patient and physician use

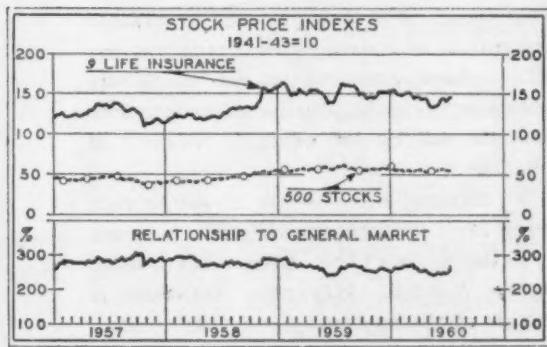
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and prospective earnings, leading life insurance stocks now might be ready to give a somewhat better relative performance in the medium growth stock field.

During the 1950s, rapid expansion of the life insurance business and an unusually favorable combination of operating conditions (increased mortality savings and rapidly growing investment net) were magnified by capital leverage. The shares attained unprecedented popularity as growth stocks, soaring to an untenable peak in 1955. The subsequent correction carried through 1957, and the group then was burdened with the weight of a greatly increased Federal income tax load. Having established a new base, the stocks now are in a position to reflect the renewed upward trend of earnings.

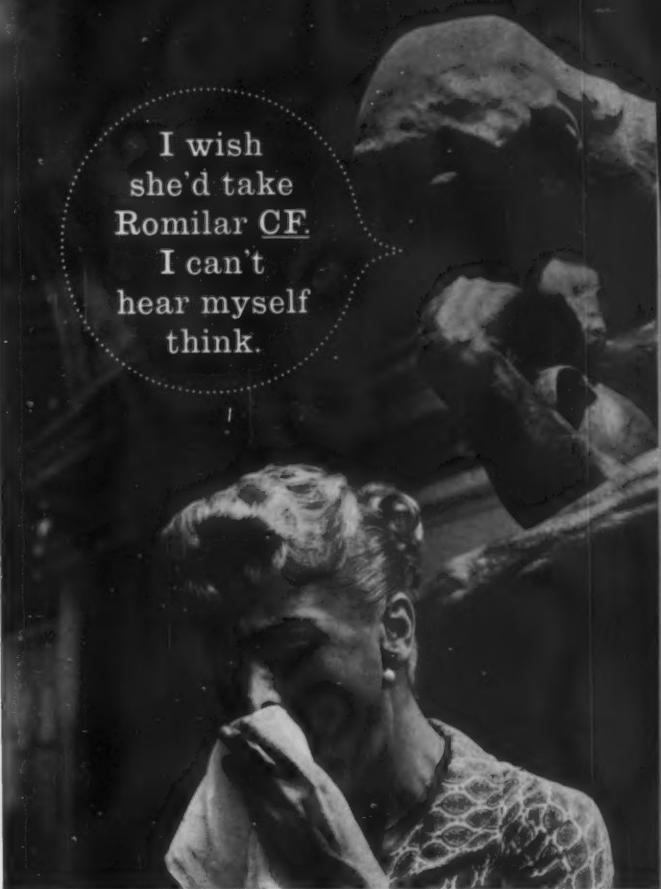
Total life insurance in force in the United States has increased faster than disposable income since 1945. Life insurance per family soared to \$9,500, or almost three times the 1945 figure, whereas personal income per family gained less than 100%. Premiums paid on life insurance, however, increased less than volume of insurance, reflecting greater use of group life and combination policies carrying lower premiums. Hence, the ratio of premiums paid to disposable income was only 3.9% in 1959, as against a low of 3.3% in 1943-44 and a high of 7.2% in 1932-33.



Premium volume has continued to gain at a favorable rate so far in 1960, and longer term prospects are good. Growth of population and of disposable income work in favor of the life insurance business. Moreover, with assets of leading companies amounting to four or five

I wish
she'd take
Romilar CF.

I can't
hear myself
think.



ROMILAR CF will stop that cough by prompt, specific control of the cough reflex—without narcotic hazards or complications. Relief begins within 15 to 30 minutes, lasts for as long as six hours. **ROMILAR CF** treats the entire cough and cold complex—nasal and bronchial congestion, allergic manifestations, fever, headache and myalgia, as well as cough. Romilar® Hydrobromide—brand of dextromethorphan hydrobromide.

NON-NARCOTIC

NO PRESCRIPTION REQUIRED.

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ROMILAR CF

to stop that cough

STATISTICAL COMPARISON OF LEADING LIFE INSURANCE STOCKS

	TOTAL ASSETS (IN MILLIONS)		NET INVEST. INCOME		TOTAL NET GAIN		PER SHARE		*BOOK VALUE 1958	†PRICE RANGE 1959	1960	CURENT PRICES*
	1958	1959	1958	1959	1958	1959	1958	1959				
AETNA LIFE	\$3,551	\$3,801	\$3.89	\$5.59	\$4.00	\$3.45	\$1.27½	\$1.39	\$52.43	\$57.00	99½-79½	89-75½
CONNECTICUT GENERAL	1,926	2,084	19.69	21.89	10.60	11.53	2.00	2.20	101.64	111.27	388-314	379-313
CONTINENTAL ASSURANCE	588	659	3.34	3.47	3.78	3.91	0.96	1.15	36.60	40.17	170-135	167-137
FRANKLIN LIFE	470	527	0.40	0.73	2.28	2.26	0.35	0.41	12.15	13.94	85-68	85-69½
JEFFERSON STANDARD	541	586	2.34	2.60	2.22	2.46	0.63	0.63	25.74	26.59	49½-40½	50-37½
LINCOLN NATIONAL	1,358	1,418	9.35	10.63	13.47	10.99	1.95	2.00	81.98	87.72	261-192	252-215
TRAVELERS	3,073	3,194	3.73	4.61	3.29	4.01	1.10	1.25	40.83	47.27	101½-78	89-74½

*Excludes equity in insurance in force. †Bid prices. ¹Includes wholly-owned Pilot Life. ²Consolidated. ³Because of the time-lag created by the mechanics of magazine publishing, investors should consult daily papers for latest prices.

times the market value of the shares, results are leveraged.

The number of companies in the field more than doubled in the past 10 years and competition is keen, but the larger stock companies should be able to obtain a fair share of the growing volume of business, with results in each case reflecting individual efforts.

The interest received on *investments* is one of the most important sources of life insurance company earnings. Not only are these investments increasing in amount, but the net rate of interest earned has been rising consistently—from 2.88% in 1947 to 3.96% (before taxes) in 1959, for all U. S. life insurance companies. The net return is expected to increase further despite the decline in money rates from the high point of January 1960, since yields on many older portfolio investments are well below the yields currently available on mortgages and bonds.

Underwriting profits of life insurance companies have been favored by an accelerated decline in the mortality rate. With medical science still progressing rapidly and conditions increasingly favorable to longevity, the mortality reserves of the older companies are highly conservative. Further growth in net underwriting profits—from the new base established in 1958, when such profits became taxable—is a logical expectation.

Well-established life insurance companies pay out only a modest percentage of net

investment income, plowing back the balance as well as net underwriting profits. Hence, the dividend return is low, but the annual increase in book value is substantial. The shares, accordingly, appeal mainly to investors who have no need for current income and are seeking long term capital gains.

Current prices appear to be reasonable in relation to various calculations of earnings and equity values, and in comparison with the statistical position of growth stocks in other industries.

Among the soundest in the field are the stocks of the three largest stock companies, TRAVELERS, AETNA LIFE and CONNECTICUT GENERAL. Each of them increased its dividend rate at least once since 1958. TRAVELERS and AETNA LIFE have subsidiaries which are leading factors in the casualty and fire insurance field, the outlook for which is favorable at this time.

OCCIDENTAL LIFE, which is the seventh largest stock life insurance company, is owned by TRANSAMERICA CORP., whose stock is listed on the N.Y.S.E. JEFFERSON STANDARD is another of the moderately conservative situations with good prospects.

Among the more volatile issues, reflecting rapid growth of business and consequent increase in leverage are CONTINENTAL ASSURANCE, FRANKLIN LIFE and LINCOLN NATIONAL. Statistically, these shares are relatively high.

**CONSISTENTLY GOOD
CLINICAL RESULTS
IN TRICHOMONAL
AND MONILIAL VAGINITIS**

TRICOFURON IMPROVED (Suppositories and Powder)
cured 143 of 161 patients with vaginitis due to
Trichomonas vaginalis, Candida (Monilia) albicans,
or both. "Almost immediate symptomatic
improvement was noted with the first insufflation."

Criteria for cure: freedom from
infecting organisms as well as symptoms on
repeated examinations during a three-month follow-up.

This cure rate of 88.8% is "surprisingly similar"
to results reported by earlier investigators.

Coolidge, C. W.; Glisson, C. S., and Smith, A. S.:
J.M.A. Georgia 48:167, 1959.

**TRICOFURON®
IMPROVED**

2-step treatment brings swift relief,
eradicates stubborn trichomonads,
Candida (Monilia) albicans,
Hemophilus vaginalis

1. POWDER for weekly insufflation in your office.
MICOFUR®, brand of nifuroxime, 0.5%
and FUROZONE®, brand of furazolidone, 0.1% in
an acidic water-dispersible base.

2. SUPPOSITORIES for continued home use
—1st week one suppository in the morning
and one on retiring. After 1st week, one
suppository at night may suffice.

Continue use of suppositories during menses.
Treatment should be continued throughout a complete
menstrual cycle and for several days thereafter.

MICOFUR 0.375% and FUROZONE 0.25%
in a water-miscible base.

*Rx new box of 24 suppositories with applicator
for more practical and economical therapy.*

*Also available:
box of 12 suppositories with applicator.*

NITROFURANS—a unique class of antimicrobials
EATON LABORATORIES, NORWICH, NEW YORK

INCREASED LIFE EXPECTANCY FOR HYPERTENSIVES

"Life expectancy seems to be the one criterion that is most reliable and least questioned as a method of evaluating treatment for patients with elevated blood pressure."¹ "It is evident that effective therapy of hypertension will prolong the life of the patient by preventing the dreaded complications of this disease in the brain, the heart and the kidneys." "There is no doubt of the prolongation of life in group 3 and 4 (Keith-Wagener-Barker) by adequate antihypertensive treatment. Some authorities report a 50 per cent, five year survival ratio for treated patients with malignant hypertension as against a 1 per cent survival ratio for untreated patients."²

Evaluation based on life expectancy is extremely difficult because of the peril of maintaining an untreated control group.¹ The doctor, however, can evaluate the symptoms related to the elevated blood pressure. . . . We know that retinopathy may improve, the heart may be reduced in size, the electrocardiogram may improve and in favorable cases the blood urea nitrogen level may fall.² These are reasonably objective criteria on which to base one's evaluation of treatment.¹

On the succeeding page is evidence that Unitensen included in any therapeutic regimen may improve the results in hypertension as measured by a regression of objective clinical changes in a substantial proportion of the patients treated.

1. Currens, J. H.: New England J. Med. 267:1082, 1959.
2. Waldman, S., and Peltner, L.: Am. Pract. & Digest. Treat. 70:1139, 1959.
3. Cohen, B. M.: paper presented at A.M.A. Convention, June, 1958.
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7. Cherny, W. B., et al.: Obst. & Gynec. 9:515, 1957.
8. Raber, P. A.: Illinois M. J. 108:171, 1955.
9. McCall, M. L., et al.: Obst. & Gynec. 6:297, 1955.
10. Finnerty, F. A.: Am. J. Med. 17:829, 1954.

Unlike diuretics or ganglionic blocking agents, Unitensen lowers blood pressure through widespread vasorelaxation. Normal vasoconstrictor responses are not altered, and there is no venous pooling with resulting postural hypotension.³⁻⁵ Through alleviation of cerebral vasospasm, Unitensen promotes cerebral blood flow and oxygen utilization.⁶⁻⁹ Furthermore, Unitensen increases cardiac efficiency, improves renal function and tends to arrest the progress of vascular damage.^{3,4,10}

Progress of Objective and Subjective Symptoms in Grades III and IV Hypertension Following Treatment with Unitensen and Unitensen-R

Observations in Patients* Treated up to 2 Years

Observations in Patients* Treated up to 3½ Years

The Course of Subjective Symptoms

Symptom	Number**	Improved	% Improved
Headache	27	21	77.7
Palpitation	20	13	65.0
Angina	15	9	60.0
Dyspnea	17	8	47.0

Objective Changes Following Treatment

Finding	Number**	Improved	% Improved
Funduscopic Changes	41	24	58.5
Enlarged Heart	20	13	65.0
Abnormal ECG	37	10	27.0
Proteinuria	31	12	38.7
Nitrogen Retention	17	6	35.2

Number**	Improved	% Improved
43	38	88.0
29	19	65.5
21	16	76.0
27	14	51.0

Number**	Improved	% Improved
59	38	66.0
35	23	65.7
45	25	55.5
43	27	62.7
28	10	35.7

Left hand charts from Clinical Exhibit "The Ambulatory Patient with Hypertension" presented AMA Convention, San Francisco, June 22-27, 1958, by B. M. Cohen, M.D.

*All patients in this study were initially classified as Smithwick Grades III and IV.

**Expressed as the number of patients exhibiting the symptom recorded.

Right hand charts include patients previously reported who had been continuously maintained on Unitensen and Unitensen-R, plus additional patients later added to the study. From Clinical Exhibit "The Office Diagnosis and Treatment of the Patient with Hypertension" presented American Academy of General Practice, Indianapolis, March 18-19, 1959, by B. M. Cohen, M.D.

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Each tablet contains: Cryptenamine (tannates) 2.0 mg.

UNITENSEN-PHEN®

Each tablet contains: Cryptenamine (tannates) 1.0 mg., Phenobarbital 15 mg.

UNITENSEN-R®

Each tablet contains: Cryptenamine (tannates) 1.0 mg., Reserpine 0.1 mg.

UNITENSEN® AQUEOUS

Each cc. contains: 2.0 mg. cryptenamine (acetates) in isotonic saline

new from Neisler

Analexin®

a new class of drug
for the relief of pain and muscle tension

Neisler

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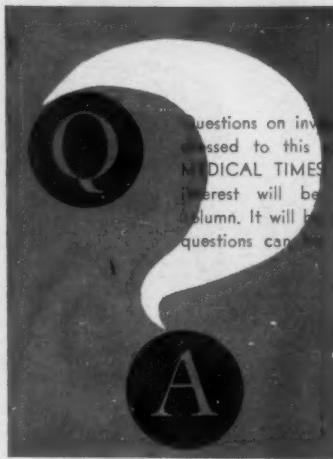
while they are planning
their family

they need your help
more than ever



the most widely prescribed contraceptive

WHENEVER A DIAPHRAGM IS INDICATED



Questions on investment may be addressed to this column in care of MEDICAL TIMES. Those of general interest will be answered in the column. It will be understood that no questions can be answered by mail.

- How does someone interested in making small purchases go about finding a broker? We don't have very much to invest and are hesitant about walking into some of these big offices.

Many brokers are glad to welcome the small customer, because they have so many case histories of small customers turning into substantial ones. If you have a friend whose financial judgement you trust, perhaps he can recommend a broker. Or discuss this with the bank where you do business. The relation between the investor and the broker has to have a large element of confidence and mutual understanding to work well, so the way you can talk to a broker and he can talk to you will have a lot of weight. Both parties to this bit of teamwork have to be able to say something and to be able to listen and hear.

- What are the marks by which anybody can identify a growth stock?

Most companies grow, but the term "growth stock" has been used of those which either are growing at a much faster rate than their competitors or the rest of industry, or are thought to be on the verge of such faster growth. Within an industry group, comparative sales figures are a measure of growth, comparative net income figures a measure of the persistence of the growth, comparative figures on research and development expenditures often a measure of the dynamics of the growth. Detecting the marks of unusual growth is not an easy task for an outsider, because behind the figures is often another explanation, a top-notch management team.



taken at bedtime

BONADOXIN®

STOPS MORNING SICKNESS IN 94%

OFTEN WITH JUST
ONE TABLET DAILY

by treating the symptom—
nausea and vomiting—as well
as a possible specific cause—
pyridoxine deficiency



*each tiny Bonadoxin
tablet contains:*

Meclizine HCl (25 mg.)
for antinauseant action
Pyridoxine HCl (50 mg.)
for metabolic replacement.

usual dose: One tablet at
bedtime; severe cases may require
another tablet on arising.

supply: Bottles of 25 and
100 tablets. Bonadoxin also
effectively relieves nausea and
vomiting associated with:
anesthesia, radiation sickness,
Meniere's syndrome, labyrinthitis,
and motion sickness. Also useful in
postoperative nausea and vomiting.
Bibliography on request.

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Bonadoxin Drops. Each cc.
contains: Meclizine 8.33 mg./
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Science for the World's Well-Being™

and...when your OB patient needs the best
in prenatal vitamin-mineral supplementation...
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Prescription
For
Travel

The Trans-Canada Highway is an all-weather road crossing all of Canada. It's a pleasant route to many established vacation centers and offers access to areas formerly impossible for the motorist to reach.

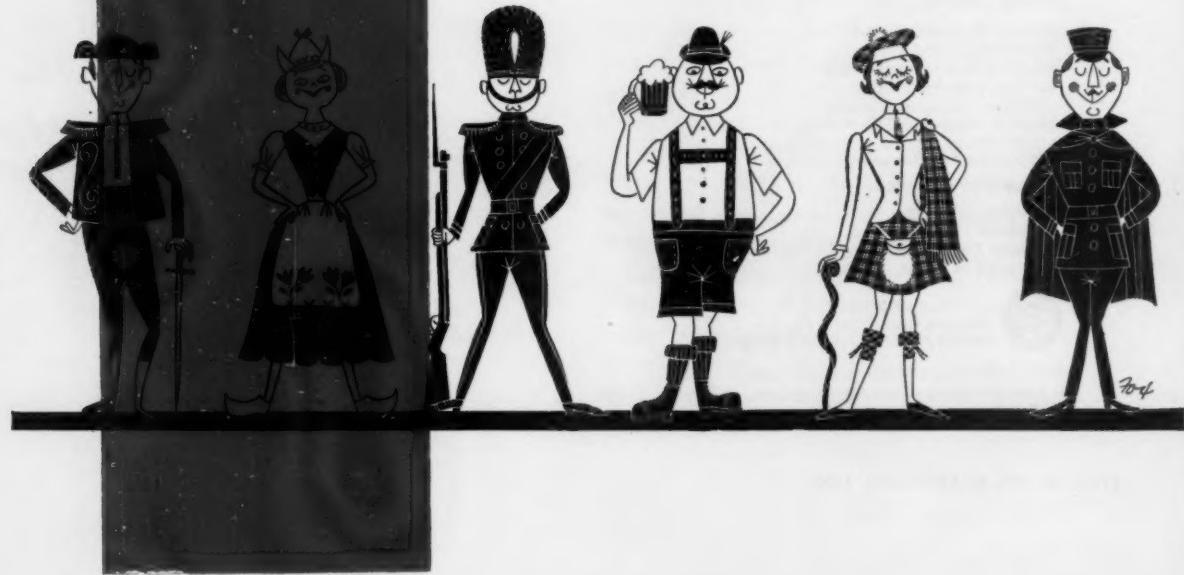
Vacationing in CANADA

Development of new highways inevitably opens up new travel attractions and the tremendous Trans-Canada Highway project is no exception. Right across Canada this all-weather road has opened up areas hitherto inaccessible to the tourist. In addition, it provides a pleasant route to many of Canada's established vacation centers.

Whether you are an outdoor enthusiast or prefer the excitement of a special kind of event, a trip along the Trans-Canada is sure to be rewarding. This 4,491-mile route takes you through some of the most scenic country in North America, at the same time providing plenty of opportunity for seeing Canada at work and play.

Let's take a look at some of the places and highlights to be found by following the Trans-Canada route from Victoria, B. C., to St. John's, Newfoundland.

It has been said that Victoria is more English than England, a statement that is unlikely to rile the English people,



even if your patient is a whip snapper*
he'll soon be riding high again, thanks to

PARAFON®

(PARAFLEX® + TYLENOL®)

for muscle relaxation plus analgesia

in arthritis

PARAFON®

with Prednisolone

McNEIL

McNeil Laboratories, Inc.
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prescribe PARAFON in low back pain—sprains—strains—rheumatic pains

Each PARAFON tablet contains:

PARAFLEX® Chlorzoxazone† 125 mg.

The low dosage skeletal muscle relaxant

TYLENOL® Acetaminophen 300 mg.

The superior analgesic in musculoskeletal pain

Dosage: Two tablets t.i.d. or q.i.d.

Supplied: Tablets, scored, pink, bottles of 50.

Each PARAFON with Prednisolone tablet contains:

PARAFLEX® Chlorzoxazone† 125 mg., TYLENOL®

Acetaminophen 300 mg., and prednisolone 1.0 mg.

Supplied: Tablets, scored, buff colored, bottles of 36.

Dosage: One to two tablets t.i.d. or q.i.d.

Precautions: The precautions and contraindications that apply to all steroids should be kept in mind when prescribing PARAFON with Prednisolone.

*tailman on hook-and-ladder fire engine

†U.S. Patent No. 2,895,877

216A60



TRAVEL

for Victoria is truly a charming city that takes justifiable pride in its lovely gardens and parks. Too, there are English type tea shops, cricket fields and colorful horsedrawn tallyhos in which to tour the city.

Victoria, the Capital of British Columbia, is located on Vancouver Island and can be reached by regular boat services operating from Horseshoe Bay and Vancouver City. Among many other reasons, the Island is well known for its salmon fishing at Campbell River, sea bathing at the beaches of Qualicum Beach and the Cowichan sweaters knitted by women of the Salish Indian tribe.

Moving onto the mainland you will want to spend some time in Canada's third largest city, Vancouver. Here you will find excellent beaches within walking distance of a downtown shopping area and golfing practically the year-round at more than a dozen golf courses. For an exciting sightseeing excursion be sure to

cross the Lion's Gate Bridge, longest suspension bridge in the British Commonwealth, to Hollyburn, Seymour or Grouse Mountain.

There are a multitude of events planned in 1960 for Vancouver, including the Kitsilano Showboat, Variety Concerts, June 18 to August 31; the Theatre Under the Stars Productions at Stanley Park throughout July and August; and the Vancouver International Festival scheduled from July 22 to August 16. Here too, is the home of Canada's second largest exhibition, the Pacific National Ex, from August 20 to September 5.

Mountains, Valleys

All along the Trans-Canada in British Columbia you will find the scenery and recreation opportunities diversified. Majestic mountains, wide plateaus and fertile valleys combine with tumbling rivers, broad lakes and quiet streams for a picturesque setting. A setting that is the stage for boating, fishing, swimming, camping or just plain sightseeing. And prac-

—Continued on page 156a

3-way support for the aging patient...

ASSISTS PROTEIN UPTAKE
IMPROVES MENTAL OUTLOOK
AIDS NUTRITIONAL INTAKE

NEW
GEVRESTIN®
Geriatric Vitamins-Minerals-Hormones-d-Amphetamine Lederle

Each capsule contains: Ethynodiol Diacetate 0.01 mg. • Methyl Testosterone 2.5 mg. • d-Amphetamine Sulfate 2.5 mg. • Vitamin A (Acetate) 5,000 U.S.P. Units • Vitamin D 500 U.S.P. Units • Vitamin B₁₂ with AUTRINIC® Intrinsic Factor Concentrate 1/15 U.S.P. Unit (Oral) • Thiamine Mononitrate (B₁) 5 mg. • Riboflavin (B₂) 5 mg. • Niacinamide 15 mg. • Pyridoxine HCl (B₆) 0.5 mg. • Calcium Pantothenate 5 mg. • Choline Bitartrate 25 mg. • Inositol 25 mg. • Ascorbic Acid (C) as Calcium Ascorbate

50 mg. • L-Lysine Monohydrochloride 25 mg. • Vitamin E (Tocopherol Acetate Succinate) 10 Int. Units • Rutin 12.5 mg. • Ferrous Fumarate (Elemental Iron, 10 mg.) 30.4 mg. • Iodine (as KI) 0.1 mg. • Calcium (as CaHPO₄) 35 mg. • Phosphorus (as CaHPO₄) 27 mg. • Fluorine (as CaF₂) 0.1 mg. • Copper (as CuO) 1 mg. • Potassium (as K₂SO₄) 5 mg. • Manganese (as MnO₂) 1 mg. • Zinc (as ZnO) 0.5 mg. • Magnesium (MgO) 1 mg. • Boron (as Na₂B₁₀O₁₀H₂O) 0.1 mg. Bottles of 100, 1000.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

RONCOVITE®-MF IS RAPIDLY BECOMING THE DRUG OF CHOICE IN ANTI-ANEMIA THERAPY...

because...

Cobalt is the only clinically proved therapeutic agent which enhances the formation of erythropoietin, the hormone which regulates erythropoiesis in the body.¹⁻³

because...

Roncovite through the effect of Cobalt-enhanced erythropoietin improves iron utilization by activating this normal physiologic process.³⁻⁴

because...

The result is a more rapid and complete hematologic response in the anemic patient . . .⁵⁻⁹

and because...

The safety of Roncovite has been thoroughly attested in published literature and demonstrated during the administration of over 365 million doses.^{6,10,11}

1. Goldwasser, E.; Jacobson, L. O.; Fried, W., and Pisak, L. F.: Blood 13:55 (Jan.) 1958. 2. Murdock, H. R. Jr.: Am. Pharm. Assoc. (Sci. Ed.) 48:140, 1959. 3. Goldwasser, E.; Jacobson, L. O.; Fried, W., and Pisak, L.: Science 125:1065 (May 31) 1957. 4. Center, W. M.: Clin. Med. 7:713 (April) 1960. 5. Holly, R. G.: Obst. & Gynec. 9:299 (Mar.) 1957. 6. Ausman, D. C.: Journal-Lancet 76:290 (Oct.) 1956. 7. Flynn, R. T.: Therapy with Cobalt and Iron for Correction of Anemia in Pregnancy, Presented at Michigan and Wayne Co. Acad. GP. Postgrad. Clinic, Detroit, Mich., Nov. 11-12, 1959. 8. Tevetoglu, F., and Ozkaragor, K.: M. Times #6:81 (Jan.) 1958. 9. Craig, P. E.: Clin. Med. 6:597 (April) 1959. 10. Hill, J. M.; LaJous, J., and Sebastian, F. J.: Cobalt Therapy in Anemia, Texas J. Med. 51:686 (Oct.) 1955. 11. Tevetoglu, F.: J. Pediat. 49:46 (July) 1956.

Please write for monograph,
"The Hormone Erythropoietin."

Roncovite literature also
available on request.

EACH ENTERIC COATED,
GREEN TABLET CONTAINS:

Cobalt chloride 15 mg.
(Cobalt as Co. 3.7 mg.)

Ferrous sulfate, excised 100 mg.

DOSAGE: The maximum adult dose of Roncovite-MF is one tablet after each meal and at bedtime.

LLOYD BROTHERS, INC.

CINCINNATI 3, OHIO

remarkably improved resistant acne...

Even the skin of patients suffering from severe acne responds rapidly to NEO-RESULIN-F because it provides continuous, multi-faceted treatment. Resorcin and sulfur dry and lightly peel the skin, while hydrocortisone relieves inflammation, redness and itching. Possible infection is controlled by the effective topical antibiotic, neomycin. Once the current eruption subsides, NEO-RESULIN-F continues to work, helping to prevent hyperkeratosis and follicular obstruction, thereby forestalling the development of more comedones.

If an antibiotic is not desired, RESULIN®-F Cream (RESULIN-hydrocortisone, Schieffelin) is available. Both NEO-RESULIN-F and RESULIN-F are supplied in 15 Gm. tubes, on prescription only.

NEO-RESULIN®-F

(Neomycin-RESULIN-Hydrocortisone, Schieffelin)

Composition: Neomycin sulfate 0.5%, resorcinol monoacetate 1.5%, sulfur 2.0%, hydrocortisone 0.5%, alcohol by weight 8.5%.

Samples and literature available on request.

Schieffelin & Co./Since 1794

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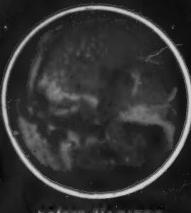
N-RES 80-1

explodes trichomonads

VAGISEC®

LIQUID AND JELLY

**93.1% "cure" rate using
strictest criterion—
negative cultures for
3 consecutive months**



before VAGISEC



30 days "cure"

Repeated negative cultures, following treatment with VAGISEC liquid and jelly, confirmed "cures" in 93.1% of trichomoniasis patients (54 of 58) treated by Giorlando and Brandt.¹ These patients were followed up, using cultures, for a minimum of three months, many for as long as eight months. All remained negative. Using the same strict criterion of negative cultures, Weiner achieved comparable success²—46 of 51 patients freed of trichomonads.

VAGISEC therapy is consistently characterized by immediate relief of painful symptoms—few recurrences.

To help rule out conjugal re-infection—Husbands willingly cooperate as a part of the wife's treatment when RAMSES,[®] the pure gum rubber prophylactics with "built-in" sensitivity, are suggested for use routinely.

Active ingredients in VAGISEC liquid: Polyoxyethylene nonyl phenol, Sodium ethylene diamine tetraacetate, Sodium diethyl sulfosuccinate. In addition, VAGISEC jelly contains Alcohol 5% by weight.

1. Giorlando, S. W., and Brandt, M. L.; Am. J. Obst. & Gynec. 76:666 (Sept.) 1958. 2. Weiner, H. H.; Clin. Med. 5:25 (Jan.) 1958

VAGISEC and RAMSES are registered trade-marks of Julius Schmid, Inc.

JULIUS SCHMID, INC.
423 West 55th Street, New York 19, N.Y.

for the silent syndrome*...

*the unmentioned edema, mood changes,
GI distress, preceding menstruation*

a comprehensive therapy

NEW



CYCLEX®

HYDRODIURIL® WITH MEPROBAMATE
HYDROCHLOROTHIAZIDE

to relieve the symptoms

for EDEMA ...

CYCLEX provides the prompt
diuresis of HYDRODIURIL
for rapid reduction of
weight gain, breast fullness,
abdominal congestion

for MOOD-CHANGES ...

CYCLEX supplies the effective
relief of meprobamate for nerv-
ousness, irritability, tension,
nausea, malaise, insomnia

for GI DISTRESS ...

CYCLEX affords quick-acting
relief of nausea and
bloating associated with
premenstrual tension.



INDICATION: CYCLEX is indicated for the relief of premenstrual tension with edema.

USUAL DOSAGE:

One CYCLEX Tablet 1 or 2 times daily, beginning when symptoms appear and continuing until the onset of menses.

of premenstrual tension

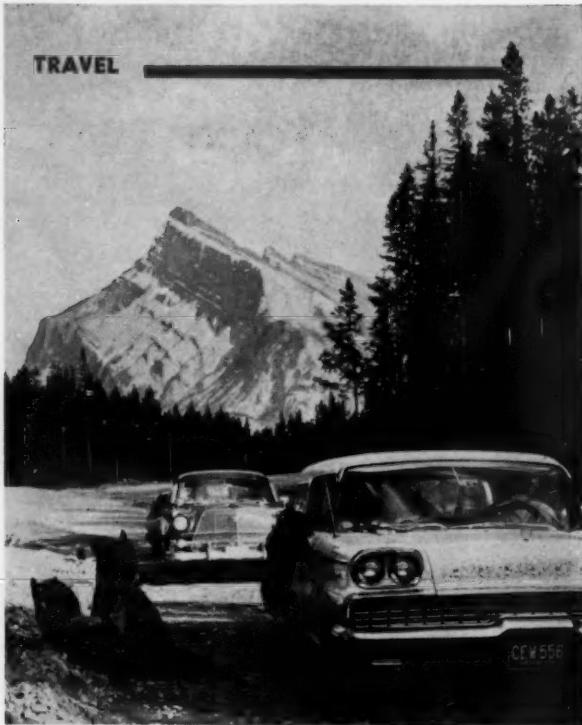
SUPPLIED: CYCLEX Tablets are supplied in bottles of 100. Each tablet contains 25 mg. of hydrochlorothiazide and 200 mg. of meprobamate.

Additional information on CYCLEX is available to physicians on request.

CYCLEX and HYDRODIURIL are trademarks of Merck & Co., Inc.



MERCK SHARP & DOHME
Division of Merck & Co., Inc.
West Point, Pa.



At many points the Trans-Canada takes the motorist into unspoiled surroundings. This photo was taken in Banff National Park, Alberta, an area of over 2500 square miles. Accommodations, including luxury hotels as well as prepared camping grounds, are available in the park.

tically every stopping point along the route has its special day or days for some extra big event.

Moving into the Province of Alberta you will have traveled through extremely scenic surroundings and one could not blame you if the next part of your trip requires a second vacation, for the temptation to linger is great indeed.

Banff National Park is your first stop in Alberta when entering from the west along the Trans-Canada route through Yoho National Park, British Columbia. You probably need no introduction to the name Banff: this park became so popular that, since it was named Canada's first National Park in 1885 with an area of ten square miles, it has been enlarged to 2,564 square miles.

Picture post card scenery, accommodations ranging from prepared campgrounds to luxury hotels and all the recreational trimmings are

among Banff's greatest assets. Names like Lake Louise, the Valley of Ten Peaks, Mount Eisenhower, and Bow River Valley are bywords with the established traveler.

Calgary and Eastward

From Banff our route leads eighty miles east to Calgary where a truly friendly welcome awaits the visitor, particularly during Stampede Week in July. During this week cowboys, cowgirls, Indians and just plain city and country folk get together for a real western style shindig.

It's a week crammed with events, parades, musicians, singers, street dancing, sidewalk flapjack artists and of course, the big show out at the exhibition grounds. Though this year's "Week" is now over, you might want to keep this event in mind for a trip to Canada in '61.

As you travel eastward through Alberta to the next Canadian Province, Saskatchewan, you will see the contrast between the mountainous slopes and foothills on the western boundary and the rolling cattle country and rich farmlands, not to mention the oil derricks.

Saskatchewan was the first Canadian Province to complete its part of the Trans-Canada Highway and the motorist will find this 406-mile stretch a virtual paradise for driving. Entering from the west you might like to take a side trip south on Highway 21 to Saskatchewan's Cypress Hills Provincial Park about twenty miles off the Trans-Canada. Its altitude of 4,300 feet is comparable to Banff.

Next stop is Regina, where you can learn more about those famous Royal Canadian Mounted Police. Here in the Capital of Saskatchewan you will find the men of today's police force undergoing the rigid training that is such an essential part of their discipline. At the same time you will find interesting highlights in their past history recorded in a special museum. In Regina be sure to visit the beautiful legis-

—Continued on page 160a

Now in a
PROFESSIONAL PACK

**BARD-PARKER
STERILE BLADES**



Individual, puncture-resistant, reinforced foil packages . . . that can be autoclaved if desired — help protect these traditionally sharper carbon steel blades. Handy new Professional Pack holds 6 Sterile Blade packages of a size.

And, time-tested B P RIB-BACK Blades are also available in the RACK-PACK package or in rust-resistant wrappers holding 6 blades of a size.

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In over five years

Proven

in more than 750 published clinical studies

Effective

for relief of anxiety and tension

Outstandingly Safe

- 1 simple dosage schedule produces rapid, reliable tranquilization without unpredictable excitation
- 2 no cumulative effects, thus no need for difficult dosage readjustments
- 3 does not produce ataxia, change in appetite or libido
- 4 does not produce depression, Parkinson-like symptoms, jaundice or agranulocytosis
- 5 does not impair mental efficiency or normal behavior

Miltown®

meprobamate (Wallace)

Usual dosage: One or two 400 mg. tablets t.i.d.

Supplied: 400 mg. scored tablets, 200 mg. sugar-coated tablets.

Also as MEPROTABS® — 400 mg. unmarked, coated tablets; and

as MEPROSPAN® — 400 mg. and 200 mg. continuous release capsules.



WALLACE LABORATORIES / Cranbury, N. J.

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of clinical use...



...for the tense and nervous patient

Despite the introduction in recent years of "new and different" tranquilizers, Miltown continues, quietly and steadfastly, to gain in acceptance. Meprobamate (Miltown) is prescribed by the medical profession more than any other tranquilizer in the world.

The reasons are not hard to find. Miltown is a **known** drug. Its few side effects have been fully reported. ***There are no surprises in store for either the patient or the physician.***

"Gratifying" relief from

*for your patients with
'low back syndrome' and
other musculoskeletal disorders*

POTENT muscle relaxation

EFFECTIVE pain relief

SAFE for prolonged use

stiffness and pain

"gratifying" relief from stiffness and pain
in 106-patient controlled study
(as reported in J.A.M.A., April 30, 1960)

"Particularly gratifying was the drug's [SOMA's] ability to relax muscular spasm, relieve pain, and restore normal movement . . . Its prompt action, ability to provide objective and subjective assistance, and freedom from undesirable effects recommend it for use as a muscle relaxant and analgesic drug of great benefit in the conservative management of the 'low back syndrome'."

Kestler, O.: *Conservative Management of "Low Back Syndrome"*,
J.A.M.A. 172: 2039 (April 30) 1960.

FASTER IMPROVEMENT—79% complete or marked improvement in 7 days (Kestler).

EASY TO USE—Usual adult dose is one 350 mg. tablet three times daily and at bedtime.

SUPPLIED: 350 mg., white tablets, bottles of 50.
For pediatric use, 250 mg., orange capsules, bottles of 50.

Literature and samples on request.

SOMA®

(CARISOPRODOL, WALLACE)



WALLACE LABORATORIES, CRANBURY, NEW JERSEY



**IN CHRONIC BRONCHITIS,
CHRONIC ASTHMA AND EMPHYSEMA**

HIGHER THEOPHYLLINE BLOOD LEVELS MORE EFFECTIVE BRONCHODILATATION

less gastric distress—for uncomplicated therapy

Choledyl produces far less gastrointestinal irritation than oral aminophylline. In a study of 200 geriatric patients chronically ill with pulmonary emphysema, bronchitis and asthma, Choledyl was found to be "extremely well tolerated."*

*greater solubility—for
enhanced theophylline blood levels*

Up to 75% higher theophylline blood levels than oral aminophylline—provides superior bronchodilatation: relieves bronchospasm—reduces coughing and wheezing—increases vital capacity—reduces incidence and severity of acute attacks—decreases need for secondary medication.

*Simon, S. W.: Ann. Allergy 14:172-180 (March-April) 1956.

CHOLEDYL®
the choline salt of theophylline brand of oxtriphylline
*betrer breathing...
decreases wheezing*



GPO48

160a

TRAVEL

lative buildings with their attractive lawns and gardens, and the modern Museum of Natural History.

From Saskatchewan we move into Manitoba with its rolling countryside, wooded valleys and more than 39,000 square miles of beautiful lakes, streams and rivers. The Province of Manitoba is noted for excellent lake trout, northern pike, walleye and smallmouth bass fishing. The Trans-Canada route here takes you through such interesting places as Brandon, Winnipeg, the Provincial Capital and the resort areas of Falcon Lake and the Whiteshell Forest Reserve.

Well-known Areas

The Trans-Canada Highway through Ontario is 1,436 miles long and covers so many different vacation areas and attractions that like all of the provinces it is impossible to do justice in a brief article. Mile after mile of the route takes you through green forests and past excellent fishing and hunting spots many of them hardly touched by mankind. It also brings you to such well known spots and vacation areas as Lake of the Woods, Nipigon, the Algoma Country and the Georgian Bay District. Too, there are established family vacation lands like the Muskoka Lakes, Lake of Bays and the Ottawa Valley.

Canada's Capital City of Ottawa will surely get an increased number of visitors this year not only because of the Trans-Canada High-

TO OUR READERS: You are avid travelers—as statistics show—taking trips for pleasure and relaxation as well as to attend professional meetings in this country and abroad. In addition, you often prescribe travel for your patients. Thus, the purpose of this department is to give you concise, practical information about one of your strong interests—travel. As a special service, this section will carry each month a calendar of important forthcoming national and international medical meetings.

MEDICAL TIMES

CHELATED — like the iron of hemoglobin
... clinically confirmed as an effective hematinic¹
... with a built-in molecular barrier against
g.i. intolerance and systemic toxicity.^{1,2} Permits
administration on empty stomach for greater iron
uptake... safeguards children against the
growing problem of accidental iron poisoning.^{1,3}

*oral iron
of the future...
prescribable
today*



CHĒL-IRON

TRADEMARK

BRAND OF FERROCHOLINATE®

GOOD TASTING DOSAGE FORMS FOR EVERY AGE GROUP
ALL SAFE TO HAVE AROUND THE HOME

CHĒL-IRON Tablets: each tablet provides equiv. 40 mg. elemental iron.

CHĒL-IRON Pediatric Drops: equiv. 25 mg. elemental iron per cc.
as delivered by accompanying calibrated dropper.

CHĒL-IRON Liquid: for children past the "drop-dose" stage,
equiv. 50 mg. elemental iron per teaspoonful (5 cc.).

Also available: **CHĒL-IRON PLUS Tablets**—chelated iron plus B₁₂,
folic acid, other B vitamins, and C.

1. Franklin, M., et al.: Chelate Iron Therapy, J.A.M.A. 166:1685, 1955
2. A.M.A. Council on Drugs: New and Nonofficial Drugs, J.A.M.A. 171:891, 1959.
3. A.M.A. Committee on Toxicology: Accidental Iron Poisoning in Children
J.A.M.A. 170:676, 1959.

KINNEY & COMPANY, INC. Columbus, Indiana

U.S. PAT. 2,979,611



TRAVEL

way, but the number of outstanding events it has planned this summer. For the golf fan there will be the America's Cup Matches, August 11 and 12 and the Canadian Amateur Golf Championship from August 15 to 20; there is the daily "Changing of the Guard Ceremony," performed in front of the stately Parliament Buildings by the Canadian Guards Regiment, replete with Bearskin headdress and scarlet tunics, from July 1 to mid-September and, of course, the ever present Mounted Policemen.

French Canada

While the Province of Quebec did not officially take part in the Trans-Canada Highway program it provides excellent highways linking Ontario with Canada's Atlantic Provinces. Along these connecting routes you will find a type of charm and atmosphere completely different from the rest of Canada. This is the cradle of French-Canadian culture that has retained much of its early beginnings despite a tremendous industrial growth.

The Trans-Canada route through the Atlantic Provinces of New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland also carries you through a different kind of scenery and atmosphere in each of the provinces. And this is the key to a Canadian vacation, for no matter where you go you will find that each of the provinces and the territories has enough difference to provide the desired amount of variety.

There are special events and interesting things to do and see right across Canada. All it takes is a little planning to get the most out of your vacation. For detailed information on the Trans-Canada Highway write the Canadian Government Travel Bureau, Ottawa, Canada.

Top: Fort Edward, one of the many historic sites found in and around Charlottetown, Prince Edward Island, birthplace of the Canadian Confederation. In Canada's capital city, Ottawa, the "Changing of the Guard" ceremonies (right) rank high as a tourist attraction.

Canadian Travel Bureau Photos





Despite
menopausal
anxiety
and
tension

- *she's in tune
with the world*
- *in command
of herself*

BUTISOL[®] sodium

butabarbital sodium

BUTISOL, with its gentle sedative action, helps greatly in maintaining functional balance during the trying months of the menopause.

In a five-year study of representative sedative and ataractic agents, only Butisol controlled "both daytime and nighttime symptoms of anxiety... without recourse to additional therapy."*

"Cumulative untoward reactions, such as excessive daytime drowsiness, dizziness, mental sluggishness and memory disturbance" occurred with most of the drugs tested, but not with 15 mg. Butisol.*

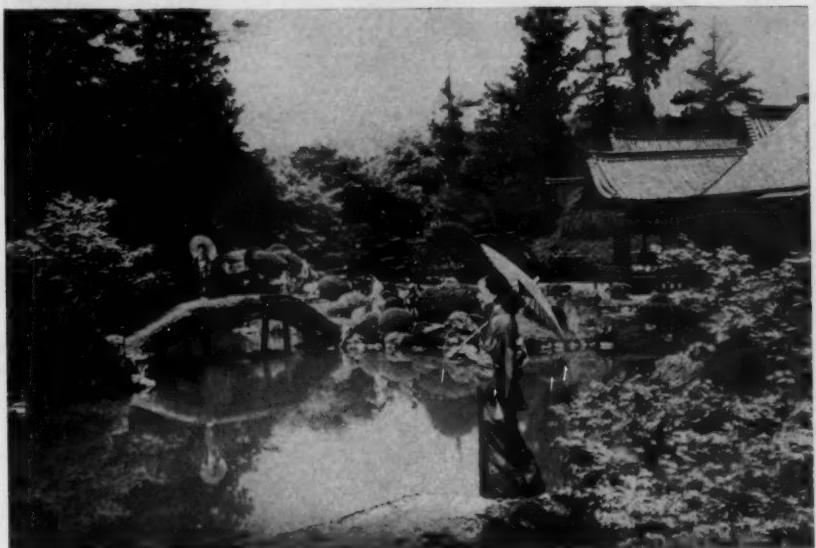
TABLETS • REPEAT-ACTION TABLETS • ELIXIR • CAPSULES

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MCNEIL LABORATORIES, INC., Philadelphia 32, Pa.

* Batterman, R. C., Grossman, A. J., Leifer, P., and Mourastis, G. J. Clinical Re-evaluation of Daytime Sedatives. *Psychiatry Med.* 76:502 (Oct.) 1959.

Geishas stroll through the delicately landscaped Samboin Gardens in Kyoto, ancient capital of Japan.



Land of the Chrysanthemum

The garden enthusiast who visits Japan in the fall will have a special treat in store for him. October is the time when the Japanese celebrate and display the "noblest flower of all," the chrysanthemum. During the last 1,500 years Japanese horticulturalists have developed an amazing number of varieties of this plant.

It will soon be the time of the *kiku* in Japan and, as any seasoned trans-Pacific traveler can tell you, there's no more delightful period in which to visit this scenic land.

Kiku—according to the Japan Tourist Association—is the Japanese word for "chrysanthemum," and when the flowers come into bloom early in October, the islands gain an added beauty. For the next six weeks, there are countrywide flower shows, window displays filled with blossoming plants, and jewel-bright gardens planted with hybrid types so varied that it is difficult to believe that they all belong to the same botanical family. For garden-lovers, the time of the *kiku* is even more fascinating than the celebrated spring cherry blossom season.

The Japanese regard the chrysanthemum as the noblest of all flowers and, during the past 1,500 years, their skilled horticulturalists have developed an immense number of varieties with almost unbelievable diversity of form and color. As a matter of fact, the *kiku* has been the national flower of Japan since the 12th century. Its design appears in the Imperial crest and is repeated over and over again in textiles, ceramics, postage stamps and even in the architecture of temples and other buildings. It is also regarded by the Japanese people as the emblem of peace, nobility and long life.

The term "living doll" becomes a literal fact in Japan each fall. The chrysanthemum season is usually ushered in by displays of *kikuningyo* or "chrysanthemum dolls" at business



economical maintenance therapy in atopic dermatoses

Long-term use of topical steroids has real advantages in most eczematous diseases; but this means daily applications for many weeks and even months after visible signs of the disease have disappeared.¹ The 0.25% hydrocortisone topicals afford therapeutic effectiveness at a fraction of the cost.²

1.) Stoughton, R. B.: Report To The Council; Steroid Therapy In Skin Disorders, J.A.M.A. 170:1311-1315 (July 11) 1959. 2.) Goodman, H.: Concentration of Topical Medications Dispersed in Evaporating Vehicles with Particular Reference to Hydrocortisone Alcohol, Clin. Med. 6:781-784 (May) 1959.



World Leader In Dermatologicals
DOME CHEMICALS INC.
New York Los Angeles



CORT-DOME®

(pH 4.6)

0.25% micronized hydrocortisone alcohol in the exclusive ACID MANTLE® vehicle.

NEO-CORT-DOME™

(pH 4.6)

0.25% micronized hydrocortisone alcohol plus 5.0 mg./Gm. of neomycin sulfate in the exclusive ACID MANTLE vehicle.

CARBO-CORT™

(pH 4.6)

0.25% micronized hydrocortisone alcohol plus 3.0% liquor carbonis detergents in the exclusive ACID MANTLE vehicle.

CORT-QUIN™

(pH 4.5)

0.25% micronized hydrocortisone alcohol plus 1.0% diiodohydroxy-quinoline in the exclusive ACID MANTLE vehicle.

COR-TAR-QUIN™

(pH 5.0)

0.25% micronized hydrocortisone alcohol plus 1.0% diiodohydroxy-quinoline and 2.0% liquor carbonis detergents in the exclusive ACID MANTLE vehicle.

DOME

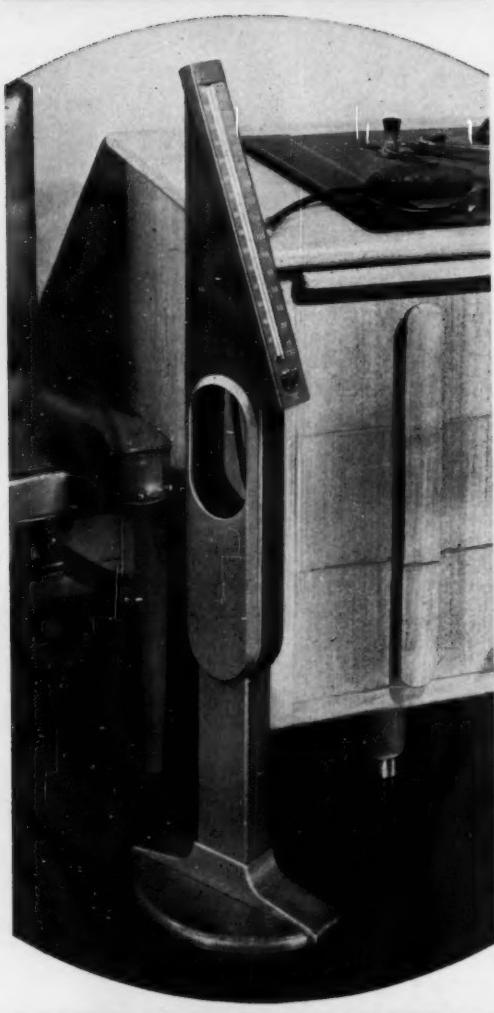
The exclusive ACID MANTLE vehicle potentiates the ingredients in DOME preparations . . . restores and maintains the normal protective acidity of the skin . . . and facilitates healing.

Available as CREAMES in 1 oz. tubes, 4 oz. and 1 lb. jars; and as LOTIONS in 4 fl. oz. bottles.

These preparations are also available with higher hydrocortisone concentrations.

*It has what it
takes . . . for the*

BUSY DOCTOR'S OFFICE



The STANDBY Model



Designed for maximum service anywhere in the busy office — by desk, chair or examining table. Your dealer will gladly send you one for inspection and trial.

TRAVEL

and amusement centers in Tokyo and other cities. These life-size figures are actually made of growing chrysanthemum plants painstakingly trained over wire or bamboo frames shaped in the likeness of famous personages of fact or fiction, and usually set up in tableaux. Horticulturists who are engaged in this kind of work cultivate the flowers of many beautiful varieties, giving them special fertilizers so that the plant stems remain flexible and yield to whatever way the "sculptor" wishes to bend them in clothing the figures with their floral garments.

These botanical dolls may be shaped in the image of someone like Lady Murasaki, the celebrated 10th-century author of the "Tale of Genji." But as often as not, they depict popular film stars, rock-and-roll idols or even leading baseball players.

Brilliant Flower Shows

Of particular interest to garden fans, however, are the annual chrysanthemum shows which are held throughout Japan from early October through mid-November. Two major varieties of the plant are cultivated. One type is grown to produce just a few spectacular blossoms, each breathtakingly large and perfect. Some are frilled and feathery as a bursting skyrocket while others are huge, globular and shaggy. The second major variety features hundreds — sometimes thousands — of small blossoms in a vast range of shades. All types are judged both for the perfection of their blossoms and for the quality of their foliage.

Doctors, lawyers, housewives, teen-agers . . . everyone in Japan raises chrysanthemums as a hobby and enters them in the fall shows. Public affection for the noble kiku is reflected by some of the highly fanciful, poetic names conferred upon the plants. "King of Jewels," "Light of Eternal Age" and "Dance of the Golden Phoenix" are typical examples.

In addition to its beauty and symbolic value, the chrysanthemum is cherished throughout Japan for very practical reasons. Devotees of folk medicine, for example, claim that a bitter

DIAPHRAGMS!

NINE REASONS WHY MORE AND MORE PHYSICIANS
ARE USING THE CONTOURING

Koro-Flex



1. Reduces your fitting instruction time.
2. Patient ease of insertion—automatic placement.
3. Develops patients' confidence. Easy to use.
4. Folds behind pubic bone with suction-like action, forming an effective barrier.
5. Seals off cervical area.
6. Locks in spermicidal lubricant—delivers it directly under and next to the os uteri.
7. Keeps its place—doesn't shift.
8. Simple to remove.
9. Aesthetically acceptable. Is most comfortable. KORO-FLEX (contouring) Diaphragms may be used where ordinary coil-spring diaphragms are indicated and for Flat rim (Mensinga)-type as well.

Recommend: KORO-FLEX Compact, the ONLY compact that provides the arcing diaphragm (60-95 mm), jelly and Koromex cream (trial size). More satisfied patients result from trying both and then selecting the one best suited to physiological requirements. Eliminates guessing. Supplied in feminine clutch-style bag with zipper closure.

Available in all prescription pharmacies.
Write for descriptive literature.
Always insist on the use of time-tested Koromex Jelly or Cream with diaphragm.



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ELDEC Kapsseals help offset the disorders of advancing age for the patient now in his middle years. Supplying numerous valuable dietary and metabolic factors, ELDEC Kapsseals provide the patient with comprehensive physiologic supplementation to meet the threat of nutritional and hormonal deficiencies...aid him in meeting the problem of declining health during the years ahead. With ELDEC Kapsseals, the patient can plan ahead for tomorrow with a greater assurance of good health and well-being.



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PARKE, DAVIS & COMPANY
Detroit 32, Michigan



The Great Buddha of Kamakura is said to be the most photographed subject in Far East. Made of bronze, it weighs 210,000 pounds.

brew made from the stems of the plant is just the thing to prevent hair from becoming prematurely gray.

The kiku is also a favorite with gourmets, reports the Japan Tourist Association. During the fall, the smaller blossoms are widely used as a garnish to add color and eye-appeal to various dishes. Both the flower and tender leaves, deep-fried for an instant in a light batter, are also a popular delicacy at tempura bars and vegetarian restaurants.

TRAVEL NOTES

● *The new Yatabe Country Club, to be opened this fall in Ibaragi Prefecture, Japan, will provide helicopter service from downtown Tokyo, reports the Japan Tourist Association. The 36-hole layout will have east and west courses, each with par 72s. Tokyo golfers will be able to reach it in double-quick time via whirlybird from a heliport atop the Daimaru Department Store.*



A listing of important national
and international medical conferences

Calendar of Meetings

SEPTEMBER

West Berlin. World Medical Association, Sept. 15-22. Contact: Dr. Louis H. Bauer, 102 Columbus Circle, New York 19, N. Y.

Bonn, Germany. Congress of International Society of Audiology, Sept. 28-Oct. 1. Contact: General Secretary, 4, Rue Montvert, Lyons, France.

Honolulu, Hawaii. Pan-Pacific Surgical Association, Sept. 28-October 5. Contact: Dr. F. J. Pinkerton, Suite 230, Alexander Young Building, Honolulu 13, Hawaii.

Tokyo, Japan. International Society of Blood Transfusion, Sept. 12-15. Contact: Dr. Seizo Murakami, Blood Transfusion Research Laboratory, Japanese Red Cross Society, Shibuya, Tokyo.

Rome, Italy. European Congress of Cardiology, Sept. 18-25. Contact: Secretariat, Organizing Committee, Clinica Medica-Policlinico, University of Rome.

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the years of maturity
years of health...

ELDEC®
comprehensive physiologic supplement
KAPSEALS®

Physiologic Prophylaxis

- 10 important vitamins plus minerals to help maintain cellular function and to correct deficiencies
- protein improvement factors to help compensate for poor food selection
- digestive enzymes to aid in offsetting decreased natural production
- steroids to stimulate metabolism and prevent or help correct protein deficiency states

Packaging: ELDEC Kapsals are available in bottles of 100.



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**Unique
benefit of
APRESOLINE®
helps reverse
advancing
hypertension**

Apresoline contributes an exclusive action to the antihypertensive program: It is the only therapeutically acceptable agent to increase renal blood flow and relax cerebral vascular tone while it lowers blood pressure. With improved kidney function, advancing hypertension can often be halted—or even reversed.

Apresoline is indicated for moderate to severe and malignant hypertension, renal hypertension, acute glomerulonephritis, and toxemia of pregnancy.

When less potent drugs are not fully effective, when renal function must be improved, Apresoline is a logical prescription. Except in rare instances side effects are not a serious problem when the recommended maximal daily dosage (400 mg.) is not exceeded.

Rx APRESOLINE®-ESISDRIX®
for potentiated antihypertensive
effect in advancing hypertension

Complete information sent on request

SUPPLIED: APRESOLINE Tablets, 10 mg., 25 mg., 50 mg. APRESOLINE-ESIDRIX Tablets, each containing 25 mg. Apresoline hydrochloride and 15 mg. Esidrix.

APRESOLINE® hydrochloride (hydralazine hydrochloride CIBA). APRESOLINE® hydrochloride-Esidrix® (hydralazine hydrochloride and hydrochlorothiazide CIBA). 5/2927MD

C I B A
SUMMIT, N.J.

Sao Paulo, Brazil. Inter-American Congress of Radiology, Sept. 3-10. *Contact:* Dr. Walter Bomfim-Pontes, Rua Cesario Motta, No. 112, Sao Paulo.

Minneapolis, Minnesota. International Cancer Congress, Sept. 13-15. *Contact:* American Cancer Society, 521 W. 57th St., New York 19, N.Y.

Washington, D.C. International Congress of Nutrition, Sept. 1-7. *Contact:* Dr. Milton O. Lee, 9650 Wisconsin Ave., Washington 14, D.C.

Bad Aussee, Austria. International Congress of Preventive Medicine and Social Hygiene, Sept. 3-10. *Contact:* Dr. A. Rottmann, Leichensteinstrasse 32/4, Vienna 9, Austria.

OCTOBER

San Antonio, Texas. Medical and Biological Aspects of the Energies of Space Symposium, Oct. 24-26. *Contact:* Mr. Jack Harmon, Southwest Research Institute, P.O. Box 2296, San Antonio 6, Tex.

Detroit, Michigan. International Symposium on the Etiology of Myocardial Infarction, Nov. 16-18. *Contact:* Dr. Thomas N. James, Henry Ford Hospital, Detroit 2, Mich.

Ixtapan, Mexico. Symposium on Rheumatic Diseases, Oct. 19-23. *Contact:* General Tours, Inc., 595 Madison Ave., New York 22, N.Y.

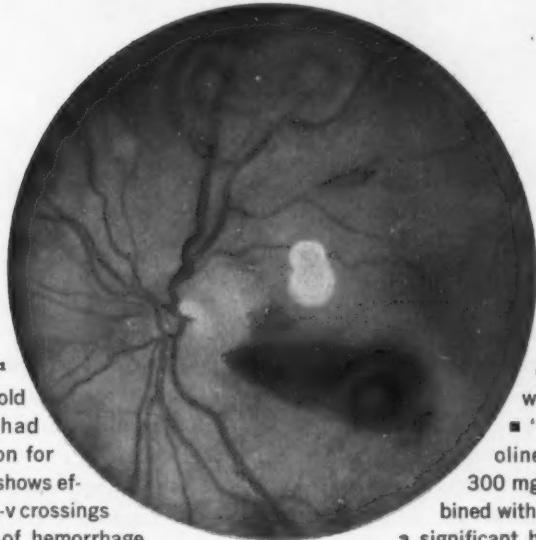
NOVEMBER

Nassau, Bahamas. Bahamas Medical Conference, Nov. 25-Dec. 16. *Contact:* Mr. Irvin M. Wechsler, P.O. Box 1454, Nassau, Bahamas.

DECEMBER

Nassau, Bahamas. Bahamas Surgical Conference, Dec. 27-Jan. 14. *Contact:* Mr. Irvin M. Wechsler, P.O. Box 1454, Nassau, Bahamas.

When blood pressure must come down



AS IN THIS CASE:¹

Fundus of 62-year-old female who has had severe hypertension for many years. Photo shows effect of pressure at a-v crossings and various types of hemorrhage.

■ When you see eyeground changes like this—with such hypertensive symptoms as dizziness and headache—your patient is a candidate for Serpasil-Apresoline. With this combination the antihypertensive action of Serpasil complements that of Apresoline to bring blood pressure down to near-normal levels in many cases. Side effects can be reduced to a minimum, since Apresoline is effective in lower

dosage when given with Serpasil.

■ "Hydralazine [Apresoline] in daily doses of 300 mg. or less, when combined with reserpine, produced a significant hypotensive effect in a large majority of our patients with fixed hypertension of over three years' duration."²

Complete information sent on request.

SUPPLIED: Tablets #2 (standard-strength), each containing 0.2 mg. Serpasil and 50 mg. Apresoline hydrochloride. Tablets #1 (half-strength), each containing 0.1 mg. Serpasil and 25 mg. Apresoline hydrochloride.

5/2822 MK

1. Bedell, A. J.: Clin. Symposia 9:135 (Sept.-Oct.) 1957.
2. Lee, R. E., Seligman, A. M., Goebel, D., Fulton, L. A., and Clark, M. A.: Ann. Int. Med. 44:456 (March) 1956.

Serpasil-Apresoline[®]

hydrochloride

(reserpine and hydralazine hydrochloride CIBA)

Rx New SER-AP-ES™ to simplify therapy of complicated hypertension

SER-AP-ES Tablets, each containing 0.1 mg. Serpasil, 25 mg. Apresoline hydrochloride, 15 mg. Esidrix / SERPASIL® (reserpine CIBA) / APRESOLINE® hydrochloride (hydralazine hydrochloride CIBA) / ESIDRIX® (hydrochlorothiazide CIBA)





MODERN THERAPEUTICS

New therapies and significant clinical investigations abstracted from other journals.

Absorption of Erythromycin Propionate

Studies had shown a difference in absorption time of erythromycin propionate in connection with its administration either prior to or following a meal. The investigation presently reported was made to determine the effect of a meal on the absorption of a new preparation of erythromycin propionate — lauryl sulfate salt. The addition of 48 ml. of water to the contents of one bottle yielded a uniform suspension that contained 125 mgms. equivalent of erythromycin in each 5 ml. Children and adults were used in the tests: in the latter, a single dose of 500 mg. (erythromycin equivalent) was given on a fasting stomach and, after a four-day interval, another dose was given immediately after breakfast. Blood was drawn before, and again 1, 2, 4, 8, and 12 hours after each dose. Breakfast was withheld until after the two-hour blood had been withdrawn. The serums were separated and stored until the entire study was completed. All sera from the same subject were assayed simultaneously for antibacterial activity by a two-fold dilution test using both *Streptococcus* 98 and *Staphylococcus* 209P. The average values obtained from the post-breakfast dose were slightly higher than those resulting from the fasting dose, but none of these differences was significant. A comparison was made of the results of the present study with those of a previous study of erythromycin propionate in gelatin capsules. There were some differences in the values obtained when

the two preparations were given before breakfast, but none was significant. The average peak level of antistreptococcal activity obtained with the suspension after the meal was the same as from the capsule taken before breakfast, but the peak antistaphylococcal level and the average total activity against both the streptococcus and the staphylococcus resulting from the post-breakfast dose of suspension were all greater than from the premeal dose of capsules, and each of these differences was significant. The conclusion with respect to the antibacterial activity produced in the serum is that the new preparation is superior to any other.

HANS A. HIRSCH, M.D., et al.
Am. J. of the Med. Sc. (1960) Vol. 239, No. 2, p. 198

Administration of Mecamylamine

The patient in a severe stage of hypertension frequently requires a ganglionic blocking agent. Due to side-effects, the individualization of dosage is a process lengthy enough to prove harmful to the patient in some instances. Mecamylamine was found to be more predictable than other agents in its rate of absorption in the gastrointestinal tract. Eleven patients suffering from severe hypertension with complications were selected for the authors' study. A solution of mecamylamine was added to 5 percent of glucose in water in the ratio of 1 mg. per 5 ml. The rate of the intravenous

Continued on page 176a

a **NEW** perspective
in the control of anxiety

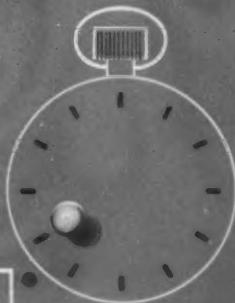
now—only one tablet daily
calms without drowsiness
all...day...long

economical

Fluphenazine dihydrochloride

Permitil Chronotabs

sustained-action tablets



A significantly wider range of anxiety symptoms amenable to therapy • A higher percentage of favorable results (over 90%)^{1,2} • A lower incidence of side effects • A greater specificity of action.

AND NOW • The simplest dosage schedule of all—only one PERMITIL CHRONOTAB, taken upon arising, usually controls anxiety and anxiety-induced symptoms *all day long*.

Sig: One Permitil Chronotab (1 mg.) in the morning

Side effects from PERMITIL, at the recommended dosage, have been observed infrequently or not at all. Complete information concerning the use of this drug is available on request.

PERMITIL CHRONOTABS, 1 mg., bottles of 30. Also available, PERMITIL Tablets, 0.25 mg., bottles of 50.

References: 1. Recent compilation of case reports received by the Medical Department, White Laboratories, Inc. 2. Ernst, E. M.: Clin. Med. (in press). Additional bibliography: Ayd, F. J., Jr.: Current Therap. Res. 1:41, 1959. Bodl, T., et al.: Clin. Res. 8:72, 1960. Dunlop, E.: Personal communication. Grimaldi, R.: Presented at Annual Congress of Pan-American Medical Association, May 6, 1960, Mexico City. Olson, J., and Cansley, S. H.: Personal communication.

CHRONOTAB



is White's sustained-action tablet.



White Laboratories, Inc., Kenilworth, New Jersey



RELA™

RELAXES, EASES
ACUTE MUSCLE
SPASM & PAIN

CARISOPRODOL

NO SPRAIN
NO STRAIN

**NO LOW
BACK
PAIN**

X

RELA achieves the necessary interruption of the spasm/pain cycle through its unique twofold myogesic^x action.

RELA restores mobility by relieving stiffness, pain and spasm.

Bibliography: 1. Ostrowski, J. P.: Orthopedics 2:7 (Jan.) 1960.
2. Kestler, O. C.: J. A. M. A. 171:2039 (April 30) 1960. 3. Frankel,
K.: Paper presented at Scientific Meeting, New York State
Society of Industrial Medicine, Inc., New York, Sept. 30, 1959.

Schering

XMYOGESIC: MUSCLE RELAXANT ANALGESIC

infusion was adjusted to approximately 0.5 mg. of mecamylamine per minute. Supine and standing blood pressures were determined every five minutes. The blood pressure response in the standing position was used to determine the end point of the infusion. Oral mecamylamine was given the day following the infusion, before hypertensive levels had returned. The oral dose was similar to the total intravenous dose. The blood pressure drop found with intravenously administered mecamylamine correlates well with the oral dosage required to produce a satisfactory antihypertensive response. During the first one to three days after the intravenous procedure, only a single oral dose of mecamylamine should be given. Following this period, it usually is necessary to give the indicated dosage every twelve hours. The standing blood pressure should be used as a guide for the termination of the intravenous infusion of mecamylamine, as pro-

longed and severe hypotension may otherwise result.

ROBERT F. MARONDE, M.D., et al.
Am. J. of the Med. Sc. (1960), Vol. 239, No. 2, P. 154

Hypothermia after Chlorpromazine in Myxoedematous Psychosis

Fifteen years after thyroidectomy, a woman of 54 developed myxoedematous psychosis. Chlorpromazine (100 mg. intramuscularly) was given and the patient lapsed into hypothermic coma.

External warmth and intravenous triiodothyronine produced rapid improvement; secondary adrenal insufficiency occurred, and was corrected by intravenous hydrocortisone and sodium chloride supplements orally.

J. R. A. MITCHELL, M.B.,
D. H. C. SURRIDGE, M.A., R. G. WILLISON, M.A.
Brit. Med. J. (1959), No. 5157, P. 932

Continued on page 179a

for the first time
a **DECLOMYCIN® -**
Demethylchlortetracycline

**Nystatin
combination**



CAPSULES, 150 mg. DECLOMYCIN Demethylchlortetracycline HCl and 250,000 units Nystatin.
DOSAGE: average adult, 1 capsule four times daily.

LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY,
Pearl River, New York



New

Enhances Vitality and Still Insures Weight Loss

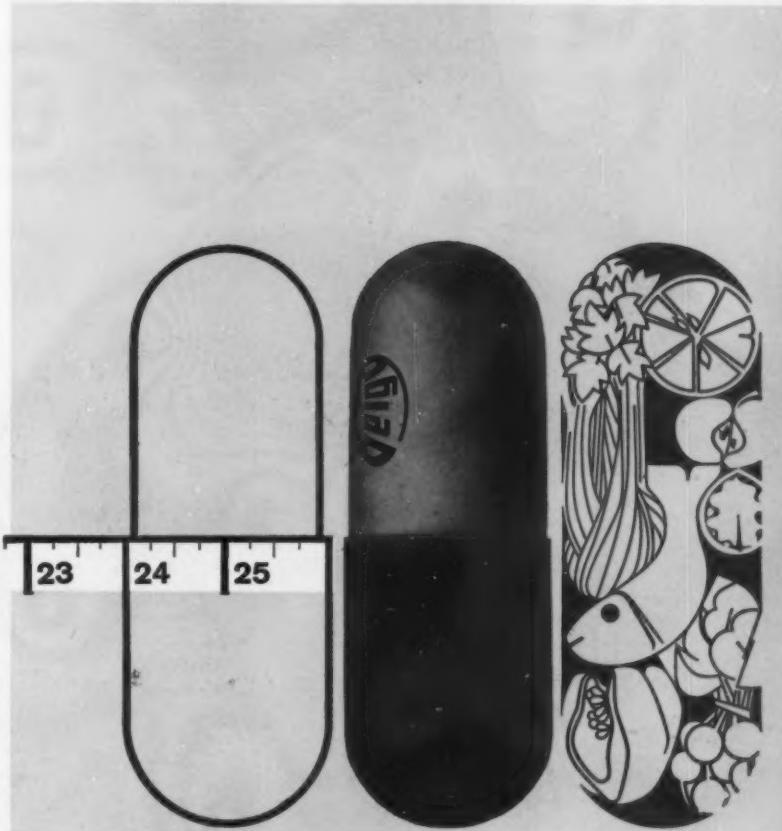
Prelu-Vite^{T.M.}

brand of phenmetrazine HCl with vitamins and minerals

Now, Prelu-Vite helps to fortify the patient's nutritional status and sense of well-being without jeopardizing the success of the weight-reducing program.

By improving nutritional status Prelu-Vite makes it easier for the patient to retain the initial zeal for reducing... facilitates the retention of enthusiastic cooperation in pursuing therapy to a successful conclusion.

With Prelu-Vite, as with Preludin, a weight loss 2-5 times that obtainable by dietary restriction alone, is readily achieved without the occurrence of annoying side reactions.



Availability:

Prelu-ViteTM Capsules, each containing 25 mg. of Preludin (brand of phenmetrazine HCl) with vitamins A, B, C and D and 5 minerals.

Under license from C. H. Boehringer Sohn, Ingelheim.

Also available:

PreludinTM EndureTM-prolonged-action tablets (75 mg.) for once daily administration; and as regular Preludin tablets (25 mg.) for b.i.d. or t.i.d. administration.

Geigy, Ardsley, New York



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*because
you
treat them
gently*

OTRIVIN

ON PRESCRIPTION ONLY

*for gentle
relief
of stuffy
nose*

Otrivin relieves stuffy nose by decongesting the engorged mucosa, re-establishing comfortable nasal airways.

Its action is not only gentle but prompt and prolonged, with little or no rebound congestion or other side effects. Complete information sent on request.

Supplied: OTRIVIN Nasal Solution, 0.1%; dropper bottles of 1 ounce.

OTRIVIN Pediatric Nasal Solution, 0.05%; dropper bottles of 1 ounce.

OTRIVIN Nasal Spray, 0.1%; plastic squeeze tubes of 15 ml.

OTRIVIN Pediatric Nasal Spray, 0.05%; plastic squeeze tubes of 15 ml.

OTRIVIN® hydrochloride (xylometazoline hydrochloride CIBA)

C I B A
SUMMIT, NEW JERSEY

2/2856HR

**Relationship of Systemic L. E.
and Discoid L. E.**

"One hundred eighteen patients with a diagnosis of either systemic or discoid lupus erythematosus were closely followed over periods ranging from 2 to 21 years (mean time, 8 years). One hundred two of these had discoid lupus erythematosus.

A grouping of patients was made on the basis of their clinical history, physical examination, and laboratory investigation.

The L.E. phenomenon was studied in all these patients as well as in a large control group. The results of the L.E. tests closely paralleled the clinical appraisal.

Using strict criteria for the diagnosis of systemic lupus erythematosus, we were able to make that diagnosis in only 12% of our group of patients with discoid lupus erythematosus. This proportion would be the maximum number, since inclusion of the total number of patients with discoid lupus erythematosus would reduce that percentage to 5%.

No final conclusions could be made regard-

ing the pathogenic relationship of the two disorders."

ALLENE SCOTT and E. G. REES

Arch. Dermatol. (1959) Vol. 79, No. 4, Pp. 100, 434

**Discriminate Antibiotic Prophylaxis
in Elective Surgery**

1. Head and neck

Plastic operations involving oral cavity.

Radical surgery; fungating carcinoma of oral cavity and neck.

Esophageal diverticulum.

2. Thoracic

Presence of infection in lesion cannot be ruled out preoperatively.

Surgery extending across potentially infected lung, mediastinal structures, or esophagus.

Bronchopleural or tracheoesophageal fistula.

Cardiac and vascular surgery when risk of superinfection is high.

3. Abdominal

Transduodenal choledocholithotomy.

Continued on the following page

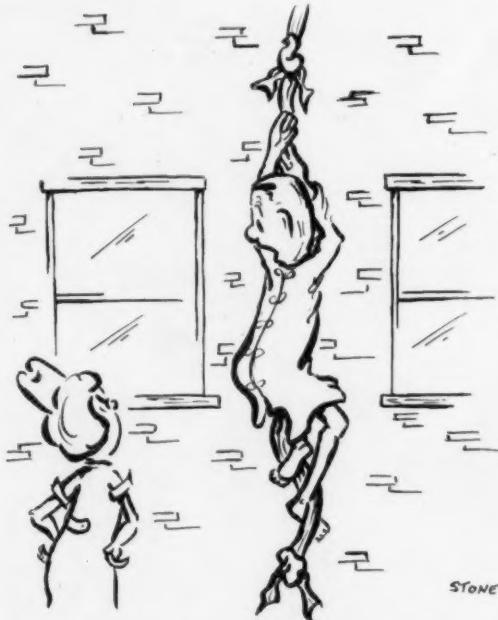


MODERN THERAPEUTICS—Continued

- Plastic repair of bile ducts.
Portacaval shunt in impending coma.
Pancreatic or enteric fistula.
Colon resection for inflammatory disease, strangulation, obstruction, perforation, carcinoma, and after spillage during anastomosis.
Closure of colostomy.
Anoplasty with primary closure.
Evisceration of laparotomy wound.
4. Obstetric and gynecologic
Premature rupture of membranes in patients with renal or valvular heart disease.
Prolonged labor if uterus is invaded for removal of placenta and membranes.
Rectovaginal or vesicovaginal fistula.
Vaginal hysterectomy with soiling.
Pelvic organ exentration.
Cystocele, urethrocele, to prevent ascending infection.
5. Genitourinary
Presence of severe urinary infection, valvular
- heart disease, extreme debilitation.
Contamination of dead space.
Postoperative extravasation of urine.
Ureteroplasty.
Transplantation of ureters.
6. Bones
Open reduction and internal fixation with or without bone grafting of major long bones of the body.
Intra-articular surgery associated with trauma or reconstructive surgery.
Debridement of major wounds associated with crushing and open fractures.
To guard against systemic infection by hematogenous route during the phase of primary bone healing when the patient is exposed to surgical procedures associated with transitory bacteremia which may be associated with dental procedures, treatment of infected cervix, of infected toenails, or skin diseases."

E. J. PULASKI

Surg. Gynec. & Obstet. (1959), Vol. 108, No. 4,
P. 388



"I'm wanted in surgery? Oh, I forgot my operation is today."

Acute Alcoholics Treated with Methylphenidylate

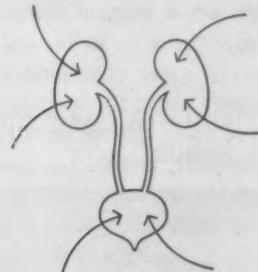
Methylphenidylate (Ritalin) is an analeptic agent known to stimulate the central nervous system at both cortical and subcortical levels. It has less cardiovascular effect than certain other agents, potentiates epinephrine and similar vasopressors, and acts as an effective respiratory stimulant. The drug has been used extensively to counteract drug-induced depression, and the side-effects produced by Rauwolfa compounds. It shortens the recovery time, according to reports, from post-barbiturate anesthesia. Nothing has appeared in the literature, it is believed, on the use of Ritalin in states of acute alcoholic intoxication. An initial trial of this agent given to 20 acutely intoxicated patients showed such a marked improvement in their clinical status that a study of a larger group of acute alcoholics seemed indi-

Continued on page 182a

*for prompt
control
of urinary tract
infections*

Urobiotic®

Cosa-Terramycin®—sulfonamide—analgesic
Capsules



IN BRIEF

Urobiotic Capsules provide control of urinary infections through effective Terramycin and sulfamethizole concentrations in the blood and urine, plus the prompt analgesic effect of phenylazo-diamino-pyridine upon the inflamed mucosa. Each Urobiotic Capsule contains 125 mg. Cosa-Terramycin (oxytetracycline with glucosamine), 250 mg. sulfamethizole, and 50 mg. phenylazo-diamino-pyridine HCl.

INDICATIONS: Urobiotic is indicated in the treatment of a number of common genitourinary infections caused by susceptible organisms. It may also be used prophylactically before and after genitourinary or pelvic surgery, following instrumentation procedures, during the use of retention catheters, and in patients with conditions such as cord bladder or cystocele.

DOSAGE: In adults, a dose of 1 or 2 capsules four times daily is suggested, depending upon the severity and response of the infection. In children under 100 lbs., the suggested average dose is 1 capsule four times daily; in children under 60 lbs., 1 capsule three times daily. Therapy should be continued for a minimum of 7 days or until bacteriologic cure.

CONTRAINDICATIONS: Urobiotic may be contraindicated in patients with chronic glomerulonephritis, hepatitis, hepatic failure, uremia, and obstructive lesions of the urinary tract, and should not be used in patients sensitive to any of its components.

PRECAUTIONS: The use of broad-spectrum antibiotics may in rare cases result in an overgrowth of nonsusceptible organisms, such as monilia or staphylococci. Should such superinfection occur, therapy with Urobiotic should be discontinued and specific therapy instituted as shown by susceptibility testing. The usual precautions for sulfonamide therapy should be followed when using Urobiotic.

SUPPLY: Urobiotic capsules, yellow and grey with "Pfizer" imprint, bottles of 50.

Detailed professional information is available on request from Pfizer Laboratories Medical Department.

*Science
for the world's
well-being™*



PFIZER LABORATORIES
Division, Chas. Pfizer & Co., Inc.
Brooklyn 6, New York

cated. The 50 patients selected were of the "skid row" type. Results showed that methylphenidylate administered intravenously was effective in counteracting the depression state of acute alcoholism. A satisfactory regimen appears to be small multiple intravenous injections. Twenty to 30 mgms. are given initially, followed by 20 to 30 mgms. every half hour until a desired response is evident or until side-effects intervene. Only in completely unresponsive cases should 50 mgms. be given in one injection. The response of the group to treatment with methylphenidylate was excellent in 46 percent, good in 34 percent, and fair in 16 percent. Side-effects noted in 17 patients consisted of agitation, psychosis, anxiety, nausea and/or vomiting. It is believed that contraindications to the use of the drug include excess anxiety, agitation, psychosis, and severe

cardiovascular disease. Ritalin should not be used in conjunction with epinephrine or epinephrine-like drugs.

JOHN T. SCOGIN, M.D. and

HAROLD L. DOBSON, M.D.

Am. Pract. (1960), Vol. 11, No. 1, P. 48

Diethylcarbamazine Evaluated

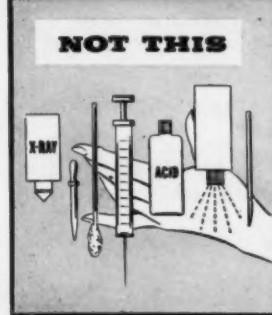
The occurrence of tropical pulmonary eosinophilia is widespread in India, and is recognized as a major cause of respiratory disease. Numerous agents tested for its treatment have failed to be of value therapeutically. For the most part, however, arsenic has continued to be used routinely, until the recent discovery of the value of diethylcarbamazine (Hetrazan tablets) for this disorder. The two drugs, while

Continued on page 184a

THIS



NOT THIS



VERGO
TRADEMARK

**...for the
Painless Treatment of
WARTS and CORNS**

AN ETHICAL PRODUCT — PROMOTED ONLY TO PHYSICIANS

Completely painless; highly effective. Vergo acts without the inconvenience and discomfort to the patient which is associated with some other methods, and without scars, burns, blisters, or mess. Active ingredients: "Pancin" (specially prepared from calcium pantothenate, ascorbic acid and starch). Samples and literature on request

Daywell Laboratories, INC.
FAIRFIELD CONNECTICUT

RATIONAL THERAPY
IN A WIDE RANGE OF
COMMON SKIN DISORDERS

NEW FURACIN®-HC CREAM

(NITROFURAZONE 0.2% AND HYDROCORTISONE 1%, EATON)

INFECTED AND POTENTIALLY INFECTED DERMATOSES / PYODERMAS / ULCERS
BURNS / AFTER PLASTIC, ANORECTAL AND MINOR SURGERY



FURACIN-HC Cream combines the anti-inflammatory and antipruritic effect of hydrocortisone with the dependable antibacterial action of FURACIN®, brand of nitrofurazone—the most widely prescribed single topical antibacterial. The broad bactericidal range of FURACIN includes stubborn staphylococcal strains, and there has been no development of significant bacterial resistance after more than a dozen years of widespread clinical use. FURACIN is gentle to tissues, does not retard healing; its low sensitization rate is further minimized by the presence of hydrocortisone.

FURACIN-HC Cream is available in tubes of 5 Gm. and 20 Gm. Fine vanishing cream base, water-soluble.

NITROFURANS—a unique class of antimicrobials / EATON LABORATORIES, NORWICH, NEW YORK
Products of Eaton Research

of equal therapeutic value, have a number of unlike characteristics. The average duration of treatment with arsenic is 20 to 30 days while, in half of that time, a cure is effected with Hetrazan. The advantages of oral administration of the tablets are obvious, and, unlike arsenic which often worsens symptoms initially, orally administered diethylcarbamazine therapy gives quick symptomatic relief. The drug is non-toxic, and can effectively cure arsenic-resistant cases. In separate groups, a total of 50 patients were treated with Hetrazan tablets. Only patients were included in the study whose symptoms were definitely those of eosinophilia without other complications. Diethylcarbamazine was administered in a daily dosage of 8 mg./kg. of body weight; the average amount being twelve 50-mg. Hetrazan tablets in three or four divided doses. Duration of treatment would seem to be dictated by the hematologic response: in one patient this occurred in less than four days; in three instances, in four to six days; while the average was between ten and sixteen days.

While all patients were benefitted, the rate of cure was 98 percent. The drug was well

tolerated; the side-effects which occurred in a few instances were mild in nature. Eight patients were given diethylcarbamazine intramuscularly, but the results were disappointing. It appears that the oral route is the ideal method of administration.

AJAI SHANKER, M.D., et al.
Brit. Med. J. (1960), No. 5166, P. 100

Optic Neuritis and Uncontrolled Diabetes Mellitus

Fourteen patients with optic neuritis or optic atrophy and uncontrolled diabetes mellitus were selected for study; patients with any condition known to cause optic neuritis other than diabetes mellitus were excluded. Three patients in the series used tobacco; two patients drank alcohol. The ages of the patients ranged from 40 to 69 years.

All of the patients had noted loss of vision. Examination disclosed that 12 patients had undiagnosed moderate or severe diabetes mellitus. Blood sugar values on admission were more than 200 mg. per 100 ml. in all patients except one; in seven they were more than 300 mg. per 100 ml. Thirteen patients had 3 or 4 plus glycosuria. Nine patients had symptoms of diabetes mellitus. Three patients had peripheral diabetic neuritis. Diabetic acidosis was absent in all of the patients.

The onset of the visual loss was gradual in 16 eyes and rapid in six eyes. The visual loss, ranging from moderate to severe, was bilateral in eight patients and unilateral in six patients. Papillitis was observed in seven eyes and optic atrophy in 13 eyes. Seven eyes had central scotomata, and 11 had peripheral contraction of the visual fields. Control of the diabetes mellitus arrested the visual loss in all but one of the patients who were followed. However, only one patient showed significant improvement in vision after the diabetes mellitus was controlled.

On the basis of data gathered from several
Concluded on page 186a



"Guess we'll have to do a history
and physical on him."

anticholinergic
**KEEPS
THE STOMACH
FREE OF PAIN**

tranquilizer
**KEEPS
THE MIND OFF
THE STOMACH**



Milpath acts quickly to suppress hypermotility, hypersecretion, pain and spasm, and to allay anxiety and tension with minimal side effects.

**AVAILABLE
IN TWO
POTENCIES:**

Milpath-400 — Yellow, scored tablets of 400 mg. Miltown (meprobamate) and 25 mg. tridihexethyl chloride. Bottle of 50.

Dosage: 1 tablet t.i.d. at mealtime and 2 at bedtime.

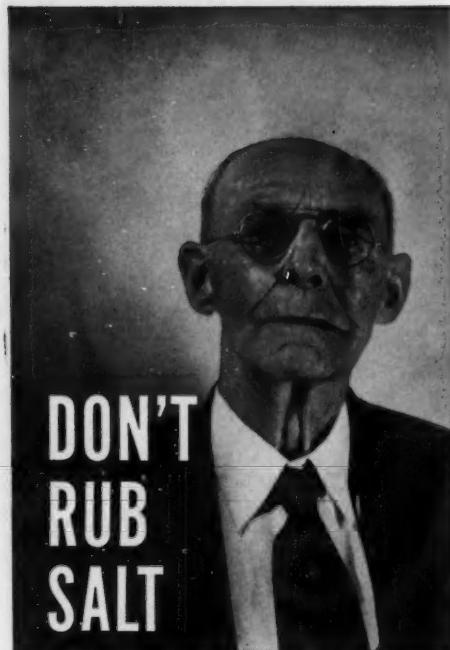
Milpath-200 — Yellow, coated tablets of 200 mg. Miltown (meprobamate) and 25 mg. tridihexethyl chloride. Bottle of 50.

Dosage: 1 or 2 tablets t.i.d. at mealtime and 2 at bedtime.

Milpath®

®Miltown + anticholinergic

WALLACE LABORATORIES New Brunswick, N. J. 



DON'T
RUB
SALT

IN HIS
CARDIAC
WOUND

Modern saluretics may seem to have made unlimited salt intake possible for cardiac and hypertensive patients. Yet despite the improvements in diuretic therapy, sodium restriction is still important in the prophylaxis of edema. The wise physician does not add needlessly to the burden of his patient, nor test unnecessarily the power of the drugs he prescribes. It makes good sense to him to prescribe DIASAL—which looks, tastes and flavors food exactly like salt . . . but is sodium free.

Diasal contains potassium chloride, glutamic acid and inert ingredients. Supplied in shakers and 8 oz. bottles.

prescribe **DIASAL**
sodium-free salt substitute

FOUGERA

E. Fougera & Co., Inc. • Hicksville, New York

previously published case reports and the 14 patients in this series, it is suggested that visual loss may be caused by the toxic effect of uncontrolled diabetes mellitus on the optic nerves in susceptible patients.

PENN G. SKILLERN, M.D. and
GEORGE LOCKHART, III, M.D.
Annals of Int. Med. (1959), Vol. 51, No. 3, P. 468.

Sydenham's Chorea

"Sixty children who had Sydenham's chorea, and were therefore susceptible to recurrences, were followed over a six-year period in two antistreptococcal prophylaxis clinics. A unique feature of these clinics was the routine periodic testing of throat cultures and streptococcal antibodies, permitting the detection and dating of even subclinical streptococcal infections with high reliability.

There were no recurrences of chorea in the 41 children who did not have streptococcal infections. Of 19 patients who had one or more streptococcal infections, 3 had recurrences of chorea. The recurrences were not preceded or accompanied by rheumatic polyarthritis or carditis, and their clinical onset was three to six months after the first immunologic evidence of streptococcal infection. They were not accompanied by a high erythrocyte sedimentation rate or a positive test for C-reactive protein, except in 1 patient, who had a second recurrence of chorea shortly after the first recurrence and an intervening streptococcal infection.

These data provide the first available evidence that Sydenham's chorea can follow infections with Group A streptococci by an interval longer than rheumatic polyarthritis and carditis, even in the absence of the latter manifestations and, indeed, in the absence of 'rheumatic activity'."

ANGELO TARANTA
The New Eng. J. of Med. (1959), Vol. 260, No. 24
P. 1209

Schering

the first chlorinated steroid

dichlorisone acetate

new DILODERM™

specifically leveled at topical skin therapy

free from hazards of systemic absorption on topical application... effective, economical... for any steroid-responsive skin disorder... available as Foam Aerosol, Aerosol and Cream with or without neomycin

S-618

because.....

**skin
deep
is
deep
enough**



NEWS AND NOTES

Selected items of current interest from the fields of medical research and education

Medical Research on Formosa

In May 1955, U. S. Naval Research Unit No. 2, originally organized at the Rockefeller Institute in New York City in 1942, was re-established to conduct research on tropical diseases in Taipei, Taiwan. At that time, the Republic of China and the United States signed an agreement for medical research of area diseases by the U. S. Navy. A building adjoining the National Taiwan University Hospital was converted into a medical research institute with completely equipped laboratories, infectious disease wards, administrative offices, and storage and repair facilities. Present needs require doubling the size of this structure with a three-story wing.

The Unit now has eight naval officers, three Civil Service scientists, two visiting professors on Office of Naval Research contracts, ten enlisted men, 185 Chinese personnel, and ten medical research fellows. Departments include administration, bacteriology, biochemistry, clinical investigation, entomology, epidemiology, immunology, parasitology, and virology. In the research program, emphasis has been placed on viral and parasitic diseases. Studies have been made of trachoma with complete cooperation between laboratories, schools, public health administrators, local officials, and the public.

Since 1958, medical research fellowships have been offered to inhabitants of Taiwan and citizens of other countries in the Far East.

New Laboratory at Northwestern University

Dedication ceremonies of the Samuel Jefferson Sackett Research Laboratories at Northwestern University Medical School in June were timed to honor the fifth anniversary of an annual grant from Samuel J. Sackett. The donor's original plan had been investigation of the cure and treatment of rheumatic fever and related diseases. However, the study has been expanded to encompass many other infectious diseases and allergies, the additional investigations having been made possible by the receipt of research grants from several agencies.

Dr. G. H. Stollerman, who has directed the five-year research projects, cited as examples of the work already accomplished: the discovery that mild streptococcus infections that are not epidemic do not cause rheumatic fever; the demonstration of new enzymes in the blood which help the body to destroy bacteria; the finding of enzymes within the streptococcus organism which are present only in the more virulent forms, and a test for detecting immunity to streptococcus germs causing rheumatic fever and nephritis, which will help to evaluate the usefulness of vaccines. Future plans call for extensive study of streptococcal vaccines for preventing rheumatic fever and glomerulonephritis, and for further laboratory studies of the mechanisms by which the body defends itself against infection.

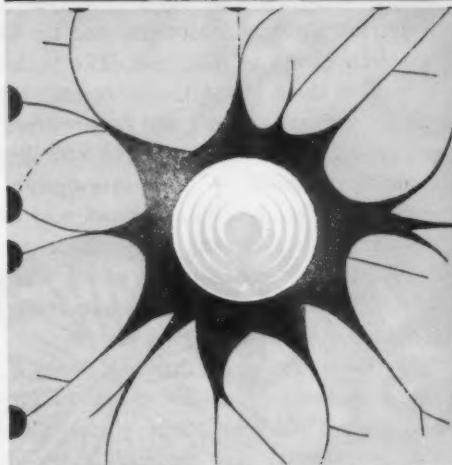
Continued on page 190a



**whenever depression
complicates the picture**

Tofrānil®

brand of imipramine HCl



**In many seemingly mild physical disorders
an element of depression plays an
insidious etiologic or complicating role.**

Because of its efficacy as an antidepressant, coupled with its simplicity of usage, Tofrānil is admirably adapted to use in the home or office in these milder "depression-complicated" cases.

hastens recovery

Geigy

It is always wise to recognize that depression may be an underlying factor...that Tofrānil may speed recovery in "hypochondriasis"; in convalescence when recovery is inexplicably prolonged; in chronic illness with dejection; in the menopausal patient whose emotional disturbances resist hormone therapy; and in many other comparable situations in which latent depression may play a part.

Detailed Literature Available on Request

Tofrānil, brand of imipramine hydrochloride, tablets of 25 mg. Ampuls for intramuscular administration, 25 mg. in 2 cc. of solution.

Geigy, Ardsley, New York

Geigy



Greater comfort in
hemorrhoids and
after perineorrhaphy

when your standing orders specify...

TUCKS®

Soft ready-to-use cotton flannel pads
saturated with witch hazel (50%) and
glycerine (10%), pH about 4.6.

As a dressing . . . TUCKS cools and smooths
traumatized tissue . . . without occlusive ve-
hicles or “—caine” type anesthetics.

In the hospital, Tucks can be kept by the
bedside for frequent, easy changing by the
patient or nurse.

As a wipe . . . TUCKS takes the trauma out of
cleansing tender tissue and encourages more
thorough hygiene.

TUCKS may also be sent home with patient
for continuation of care.
jars of 40 and 100.

Please send me a sample supply of TUCKS.

M. D.

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City _____

Zone _____ State _____



FULLER PHARMACEUTICAL COMPANY
3108 W. Lake Street
Minneapolis 16, Minnesota

13

Dr. Alfred M. Freedman

Dr. Alfred M. Freedman has been appointed Professor and Chairman of the Department of Psychiatry at New York Medical College. Dr. Freedman, who at present is Associate Professor of Psychiatry at the State University of New York, Downstate Medical Center, will assume his new post at the end of the academic year.

New Cell Bank Established

Establishment of a “cell bank” to be used for research on cancer, viruses, and in general biology, has been announced by Wayne State University College of Medicine and the Child Research Center of Michigan. The bank will be one of three in the United States. Living human and animal cells will be preserved by refrigeration at a temperature of 100 degrees below zero Fahrenheit. Many investigators are working on the theory that viruses may cause human cancer. Viruses, unlike other germs, require living cells in order to grow. With the current suspicion of viruses as cancer agents, standardization of cultures is urgent.

The formation of the three cell banks is the result of a new program initiated by the Viruses and Cancer Advisory Panel of the National Cancer Institute. The purpose of the study will be the proper classification and registry of human and animal cells grown in the laboratory. For some time, scientists have needed detailed studies of living cells so that standard strains with known properties could be established. Currently, more than 100 different types of living cells are under cultivation in laboratories all over the world. The National Cell Culture Collection Committee will assist investigators who grow tissues and cells for research purposes by promoting the study, proper classification and registry of these forms of life. The American Type Culture Collection in Washington, D.C., will provide a national repository for such standard strains so they will not be lost.

Continued on page 192a



in the family circle...all-round, year-round vitamin support with **ABDEC® Kapseals®**

ABDEC Kapseals provide comprehensive multivitamin protection all through the year. Each ABDEC Kapseal contains: Vitamin A-10,000 units (3 mg.); Vitamin D-1,000 units (25 mcg.); Vitamin C (ascorbic acid)-75 mg.; Vitamin B₁ (thiamine) mononitrate-5 mg.; Vitamin B₂ (G) (riboflavin)-3 mg.; Vitamin B₆ (pyridoxine hydrochloride)-1.5 mg.; Vitamin B₁₂ (crystalline)-2 mcg.; dl-Panthenol-10 mg.; Nicotinamide (niacinamide)-25 mg.; Vitamin E (supplied as d-alpha-tocopheryl acid succinate)-5 I.U.

DOSAGE: for the average patient, 1 ABDEC Kapseal daily. ABDEC Kapseals are supplied in bottles of 50, 100, 250, and 1,000. Also available: ABDEC Drops in 15-cc. and 50-cc. bottles with calibrated plastic droppers.

PARKE, DAVIS & COMPANY • DETROIT 32, MICHIGAN

PARKE-DAVIS

NEWS AND NOTES—Continued

Trials of Live Poliomyelitis Vaccine

The Poliomyelitis Study Unit at Yale University has reported that 357 children, all under the age of six, and living in five different areas of New Haven, are participating in the special field trial of the Sabin attenuated live poliovirus vaccine. The main purpose of the immunization program is to determine the effectiveness of the new vaccine in children under six, for this is the age group which suffered most during the poliomyelitis epidemic in New Haven in 1959. The treatment will yield information about optimum dosages as well as schedules of administration of the vaccine. The participating children have been divided into three different groups and are receiving different dosages under different schedules. Funds for the investigation have been made available by the National Foundation.

A Study of Heart Attacks

Aided by a grant from the John A. Hartford Foundation, a study is underway at the University Hospital (New York) to discover the factors which predispose the individual to heart attacks in early middle age. The project is directed by Dr. Menard M. Gertler, Associate Professor and Director of Research in Physical Medicine and Rehabilitation at the New York University Medical Center. Dr. Gertler had previously established a statistical prediction formula to identify persons most prone to heart attacks in early middle age, based on a mathematical analysis of data on physique, blood chemistry, and heredity. His method had had an accuracy rating of 90 percent.

The new project will go further. It will select

Continued on page 196a

When weight gets out of control,
the doctor's inflation may
be causing an added strain on heart.
Syndrox helps control it.

keep your obese
patient on his diet...

SYNDROX®

From the doctor the tool and control
for hypertension. The result is less in
total in weight, more time for other
activities.

The Dangers
of Inflation

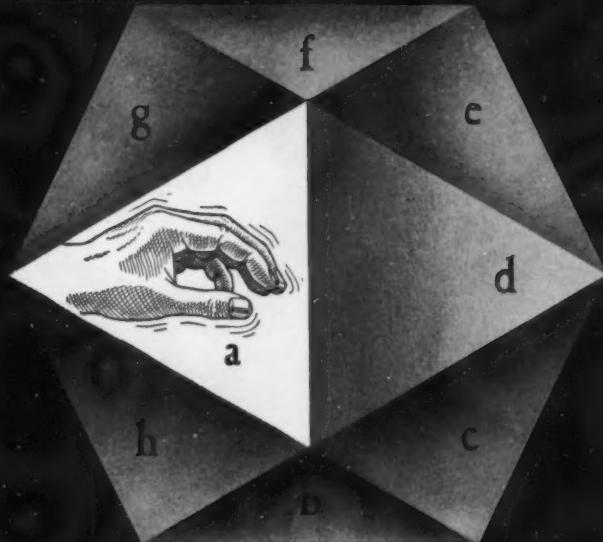


SYNDROX TABLETS 5 mg.
SODIUM CHLORIDE 3 cc.
Dose: 1 tab. or less, 2 or 3 times a
day, up to 1 hr. before meals.

McNEIL

McNEIL LABORATORIES, INC.
LAWRENCEVILLE, N.J.

MULTI-FACETED
CONTROL IN
PARKINSONISM



DISTPAL®

Brand of Orphenadrine HCl

Minimal side reactions
Nonsoporific
No known organic
contraindications

- a Lessens rigidity and tremor
- b Energizes against fatigue, adynamia and akinesia
- c An effective euphoriant
- d Thoroughly compatible with other antiparkinsonism medications
- e Highly selective action
- f Potent action against sialorrhea
- g Counteracts diaphoresis, oculogyria and blepharospasm
- h Well tolerated—even in presence of glaucoma

Dosage: usually 1 tablet (50 mg.) t.i.d. When used in combination, dosage should be correspondingly reduced.



Northridge,
California

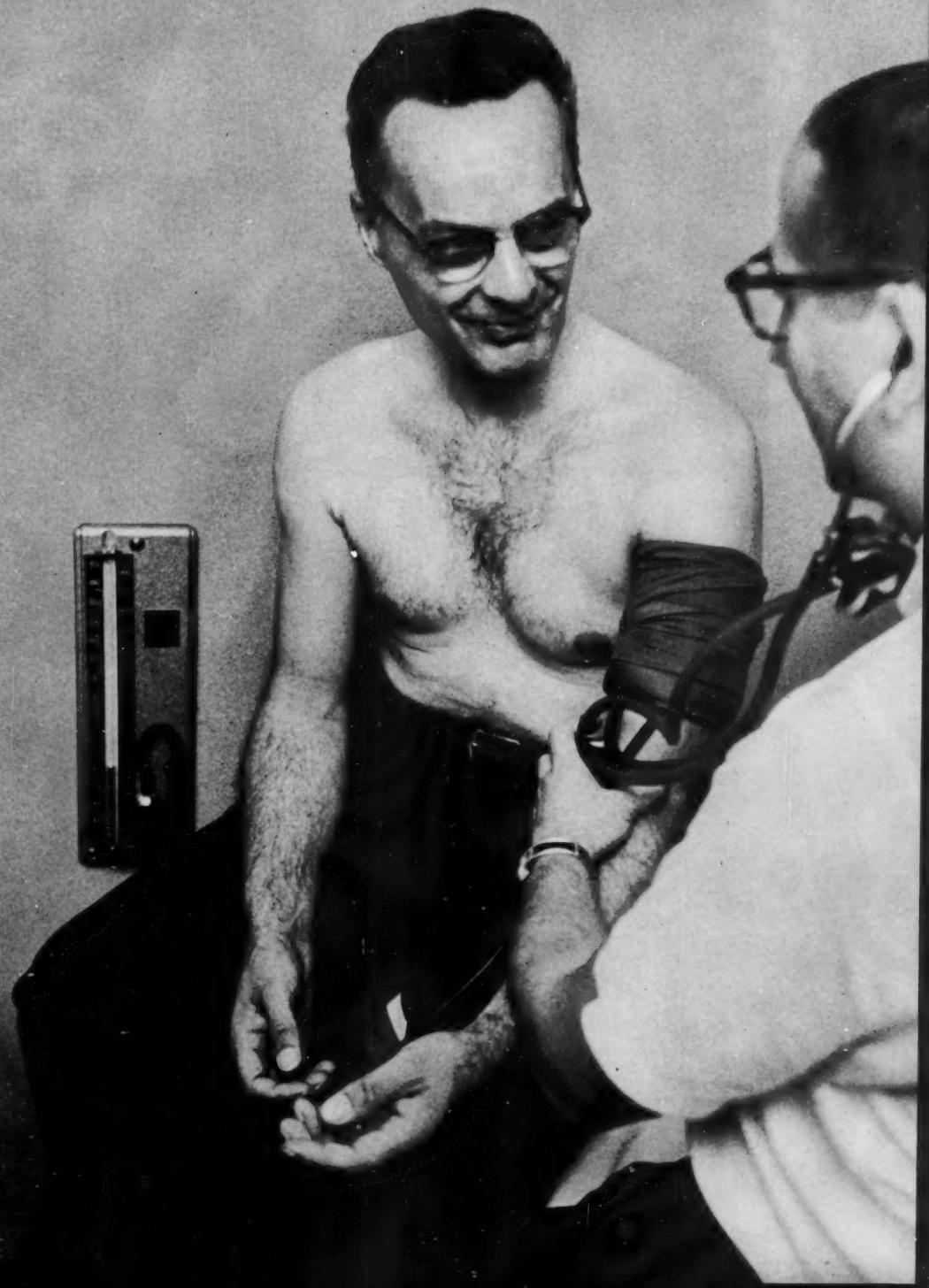
Bibliography and file card
available on request

* Trademark of Brocades-Sheeman &
Pharmacia, U.S. Patent No. 2,567,351.
Other Patents Pending.

this hypertensive patient prefers Singoserp

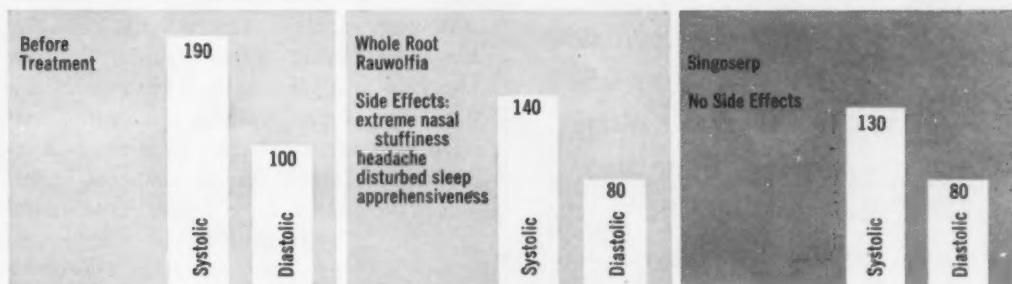
Patient's comment: "The other drug [whole root rauwolfia] made me feel lazy. I just didn't feel in the mood to make my calls. My nose used to get stuffed up, too. This new pill [Singoserp] doesn't give me any trouble at all."

Photo used with patient's permission.



...and so does his physician

Clinician's report: J. M., a salesman, had a 16-year history of hypertension and was rejected by the U.S. Army because of high blood pressure. When treated with whole root rauwolfia, patient had satisfactory blood pressure response but could not tolerate side effects. Singoserp, in a dose of 0.5 mg. daily, not only reduced patient's blood pressure still further, but did not produce any side effects.



Many hypertensive patients and their physicians prefer Singoserp® because it usually lowers blood pressure without rauwolfia side effects

SUPPLIED: Singoserp Tablets, 1 mg. (white, scored). Also available: Singoserp®-Esidrix® Tablets #2 (white), each containing 1 mg. Singoserp and 25 mg. Esidrix; Singoserp®-Esidrix® Tablets #1 (white), each containing 0.5 mg. Singoserp and 25 mg. Esidrix.
Complete information sent on request.

Singoserp® (syrosingopine CIBA)
Singoserp®-Esidrix® (syrosingopine and hydrochlorothiazide CIBA)

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SUMMIT, NEW JERSEY

B/2045H/R

NEWS AND NOTES—Continued

BANADEX
meprobamate 450 mg., with d-amphetamine sulfate 5 mg., Tablets

A logical combination for appetite suppression

meprobamate plus d-amphetamine... suppresses appetite... elevates mood... reduces tension... without insomnia, overstimulation or barbiturate hangover.

anorectic-ataractic

Dosage: One tablet one-half to one hour before each meal.

Lederle

for protection before he has that accident

for patients from 8 to 80 primary immunization—routine booster injections with far fewer severe reactions

Adult DIP-TET™ Alhydrox®
diphtheria • tetanus toxoid

• small concentrated dosage of highly purified diphtheria component reduces reactivity.
• tetanus toxoid component purified to minimize reaction
• adsorption on Alhydrox (aluminum hydroxide) provides the effect of small, repeated doses

For complete information see PDR page 664,
ask your Cutter Man, or write to Dept. O-10J

CUTTER LABORATORIES • Berkeley, Calif.



and study those individuals who are thought to be particularly prone to coronary disease and strokes for the purpose of finding additional factors which determine identification, and also for the purpose of obtaining information relating to the basic cause of the disease and of atherosclerosis. It will follow the prone individuals to see what illnesses they develop and with what rapidity. This will not only give longitudinal proof of the formula, but may also help in developing new concepts of epidemiology of cardiovascular disease to determine whether such factors as stress, motivation and other psychological factors are important in the genesis of the disease. Biochemical tests on the preselected groups will be performed to study the relationship between a disturbance in cholesterol metabolism, phospholipid metabolism and atherosclerosis. It has been pointed out that a tremendous amount of work is being carried out in the study of the environmental factors, with much too little study of the host himself. Half of the problem is that of the host, which involves heredity, race, and other such factors regardless of environment.

Narcotics Research

A \$300,000 grant has been made to the New York State Department of Mental Hygiene for construction of a narcotics research facility by the Division of Research Grants of the National Institutes of Health. This grant, matched by a similar appropriation of state funds, will go toward remodeling a wing of an existing building at Manhattan State Hospital, Ward's Island, New York, into a basic science laboratory devoted to research in drug biochemistry and physiology and in general neurochemistry. The laboratory will be part of the State's first fulltime narcotics research unit. A 55-bed narcotics center was established in 1959 which will serve as the clinical unit of the narcotics research center.

Continued on page 200a

a pair of gynecologic patients:



both are free of pain—but only one is on

DILAUDID.

(Dihydromorphinone HCl)

swift, sure analgesia normally unmarred by nausea and vomiting

DILAUDID provides unexcelled analgesia before and after gynecologic, obstetric and surgical procedures. Its high therapeutic ratio is commonly reflected by lack of nausea and vomiting—and marked freedom from dizziness, somnolence, anorexia and constipation.

▲ by mouth ▲ by needle ▲ by rectum

2 mg., 3 mg., and 4 mg.

May be habit forming—usual precautions should be observed as with other opiate analgesics.



KNOLL PHARMACEUTICAL COMPANY • ORANGE, NEW JERSEY



for every phase of cough...
comprehensive relief

AMBENYL® EXPECTORANT

AMBENYL EXPECTORANT quickly comforts the coughing patient because it is formulated to relieve all phases of cough due to upper respiratory infections or allergies. Combining Ambodryl®—potent antihistaminic; Benadryl®—the time-tested antihistaminic-antispasmodic; and three well-recognized antitussive agents, AMBENYL EXPECTORANT:

- soothes irritation • quiets the cough reflex
- decongests nasal mucosa • facilitates expectoration • decreases bronchial spasm • and tastes good, too.

Each fluidounce of AMBENYL EXPECTORANT[†] contains:

Ambodryl® hydrochloride	24 mg. (bromodiphenhydramine hydrochloride, Parke-Davis)
Benadryl® hydrochloride	56 mg. (diphenhydramine hydrochloride, Parke-Davis)
Dihydrocodeinone bitartrate	1/6 gr.
Ammonium chloride	8 gr.
Potassium guaiacolsulfonate	8 gr.
Menthol	q.s.
Alcohol	5%

Supplied: Bottles of 16 ounces and 1 gallon.

Dosage: Every three or four hours—adults, 1 to 2 teaspoonfuls; children 1/2 to 1 teaspoonful.

27148

[†]Exempt narcotic

PARKE, DAVIS & COMPANY
Detroit 32, Michigan

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Barrow Neurological Institute

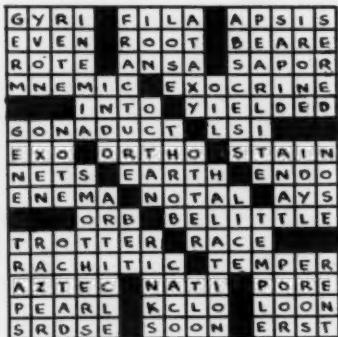
Plans are underway for the erection of the Barrow Neurological Institute adjoining St. Joseph's Hospital at Phoenix. Well over \$1,000,000 toward the cost of the Institute has been donated by members of the Barrow family as a memorial to the late William E. Barrow.

Reportedly the first neurological headquarters of its scope to be founded west of Montreal, the Institute will be the third largest privately endowed center, treating both public and private patients, in the United States. Its program will be guided by a nonprofit, inter-denominational group, recently incorporated, called the Neurological Sciences Foundation. The Institute's activities will be divided into five major divisions: neurology, neurosurgery, neuropathology, neuroradiology, and experimental neurology.

Dr. James W. Kernohan, currently president of the American Board of Pathology and Professor of Pathology at the Mayo Clinic, will become neuropathology division chairman when the Institute opens its doors in 1961. In addition to provision for treating, training and research, the structure will provide space for 50 inpatients.

MEDICAL TEASERS

Answer to puzzle on page 57a



Toxicity of Insecticides

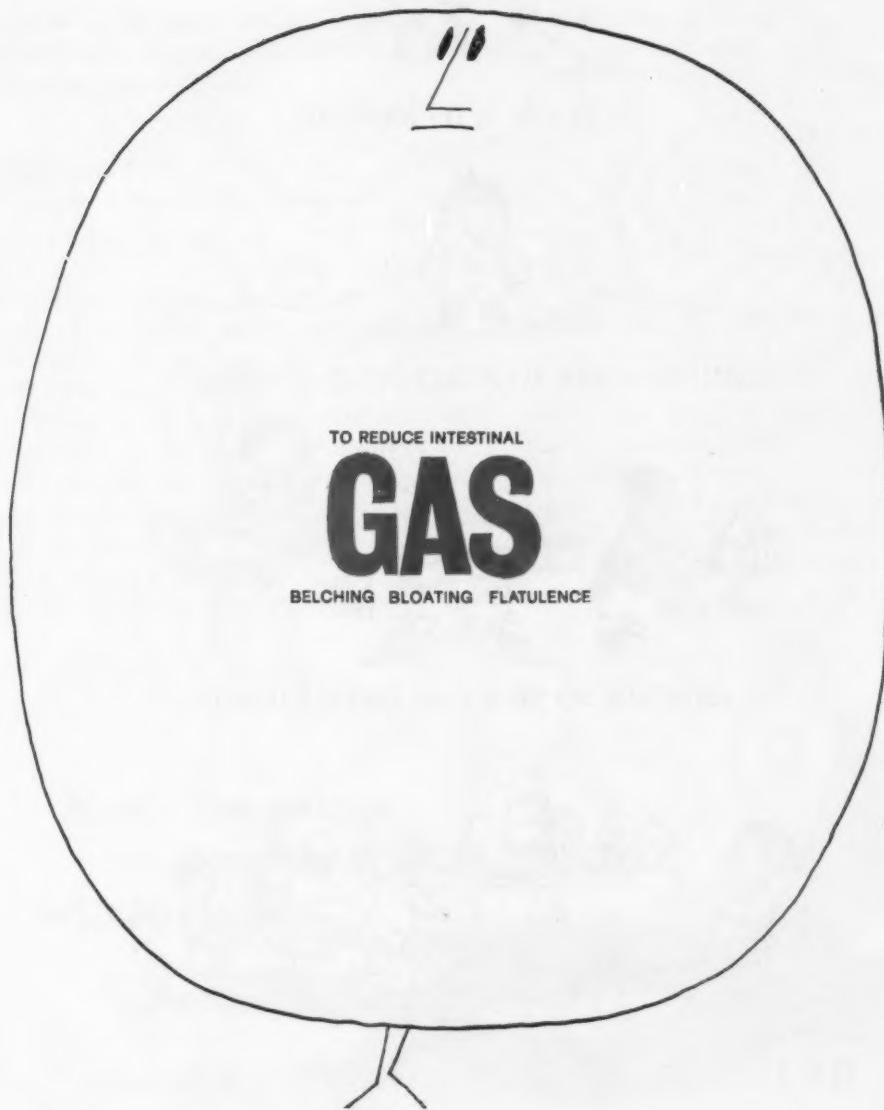
"All warm-blooded animals can be fatally poisoned by today's insecticides," according to Dr. Charles G. Wilber, Chief of Comparative Physiology of the Army Chemical Center. He referred to the all-too-frequent reports of the poisoning of small children and pets by improperly used and stored insecticides. These agents have great economic value, but they should be handled with caution.

There are two classes of modern insecticides: chlorinated hydrocarbons, and organic phosphorus compounds. The mechanism by which the chlorinated hydrocarbons is activated is not understood; it is assumed that the enzyme system is affected. Removal of the swallowed poison by saline purges is recommended: use of an oily purgative would be harmful. The control of convulsions by short-acting barbiturates is of value. If the chlorinated hydrocarbons persist in the body fat, chronic poisoning results. This class includes chlordane, dieldrin, aldrin, DDT, heptachlor, toxaphene and benzene hexachloride.

Certain divisions of the nervous system produce acetylcholine in connection with the transmitting of nerve impulses. In order to keep the tissues free of excessive amounts of acetylcholine, it is destroyed by the enzyme, cholinesterase. The organic phosphorus compounds, by poisoning the cholinesterase, disrupt the nervous system. Prompt action in the form of thorough washing of contaminated skin areas, and the intravenous or intramuscular administration of large doses of atropine sulfate are recommended.

This group of poisons includes parathion, malathion, tetraethyl pyrophosphate (TEPP), diazinon, chlorothion. They gain entry to the animal body by inhalation, through the skin, through the eyes, or by ingestion—and by all routes they are toxic. Treatment of organic phosphate poisoning is effective if it is not delayed. The contaminated skin should be washed thoroughly with soap and water; large doses of

Continued on page 203a



TO REDUCE INTESTINAL

GAS

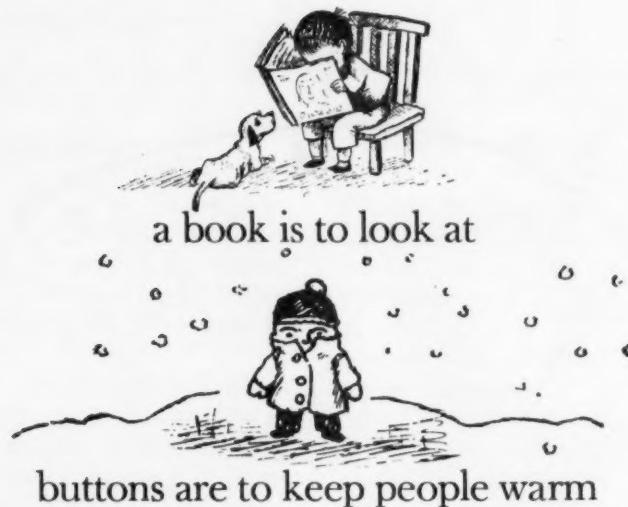
BELCHING BLOATING FLATULENCE

A biochemical compound
used to diminish intestinal
gas in healthy persons
and those patients having
digestive disorders

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Each Kanulase tablet contains Dorase®,
320 units, combined with pepsin, N.F.,
150 mg.; glutamic acid HCl, 200 mg.;
pancreatin, N.F., 500 mg.; ox bile extract,
100 mg. Dosage: 1 or 2 tablets at meal-
time. Supplied: Bottles of 50 tablets.
DORSEY BRAND OF CELULASE, EXPRESSED AS DIGESTIVE ACTIVITY UNITS.



REDISOL[®] is so kids have better appetites

Redisol (Cyanocobalamin, crystalline vitamin B₁₂) often stimulates children's appetites with consequent weight gain.

Tiny **Redisol Tablets** (25, 50, 100, 250 mcg.) dissolve instantly in the mouth, on food or in liquids.

Also available: cherry-flavored **Redisol Elixir** (5 mcg. per 5-cc. teaspoonful); **Redisol Injectable**, cyanocobalamin injection USP (30 and 100 mcg. per cc., 10-cc. vials and 1000 mcg. per cc. in 1, 5 and 10-cc. vials).

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For additional information, write Professional Services, Merck Sharp & Dohme, West Point, Pa.



MERCK SHARP & DOHME, DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

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atropine sulfate should be administered intramuscularly or by vein, and artificial respiration used when necessary.

**Night Care Programs at
Veterans Administration Hospitals**

Many mentally-ill patients have achieved recovery and the opportunity to leave the hospital permanently as a result of the night care programs carried out at the Veterans Administration psychiatric hospitals. Many patients who have been hospitalized for long periods are unable to cope with an abrupt change from hospital to community life. Because of the night care programs, these patients, in the final phases of recovery, are able to work outside of the hospital during the day, then return at night for care and treatment as needed. This arrangement is proving of definite benefit.

New Building at Harvard

Award of a matching grant of \$1,369,460 by the U. S. Department of Health, Education and Welfare to the Harvard School of Public Health for the construction of a research building has been announced. The new building, to be erected adjacent to an existing structure housing a portion of the School's research activities, will house laboratories for research in environmental health and nutrition. It is expected that the new research facilities will greatly strengthen the objectives of the School of Public Health aimed primarily at the prevention and control of disease and disability among population groups.

A subbasement and basement, to house the engineering activities of the School's recently created Division of Environmental Hygiene, will be devoted to studies related to the devel-

Continued on following page

**Now...the unique
benefits of DECLOMYCIN®
with Nystatin**



DECLOSTATIN®

Demethylchlortetracycline and Nystatin LEDERLE

CAPSULES, 150 mg. DECLOMYCIN Demethylchlortetracycline HCl and 250,000 units Nystatin.
DOSE: average adult, 1 capsule four times daily.

LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY,
Pearl River, New York

NEWS AND NOTES—Continued

SULPHO-LAC.

The Balanced Acne Therapy

MANUFACTURED BY
KELGY LABORATORIES
NEW YORK 35, N. Y.

opment of practical and economic means of eliminating radioactive particles from industrial wastes. The first four floors above ground will be concerned with the Division's research relative to the effect of radioactive fallout on lakes and streams, and with physiological studies directed toward increasing man's knowledge of the effects of industrial and other types of air pollution on mortality and disease rates. A portion of this space is being planned to house the School's research program in aviation health and safety, space biology, and highway safety.

Research activities of the School's Department of Nutrition will be placed in the upper four floors of the new building. Among the research studies conducted by the Department are those concerned with the relation of nutrition to obesity and heart disease.

Dr. Lowell T. Coggesshall

Dr. Lowell T. Coggesshall, Dean of the Biological Sciences division since 1947, has been appointed Vice President of the University of Chicago. He will be responsible for the development of medical research programs, and the building up of resources for the general activities of the biological sciences division.

A LOGICAL ADJUNCT TO THE WEIGHT-REDUCING REGIMENT

meprobamate plus d-amphetamine... reduces appetite...elevates mood...eases tensions of dieting...without overstimulation, insomnia or barbiturate hangover.

Dosage: One tablet one-half to one hour before each meal.

anorectic-ataractic

BAMADEX®
meprobamate 400 mg., with d-amphetamine sulfate 5 mg., Tablets

Lederle

Law-Medicine Center in Cleveland

At the Western Reserve University, the Law-Medicine Center was established for the purpose of the improvement of the administration of justice. The Center is comprised of a laboratory and office building of the Cuyahoga County coroner; the School of Law; the School of Medicine, and the Institute of Pathology. In connection with the instructional activity in civil and criminal justice, a school for suburban police officers has been institute. The Director of the Center is a professor of law at Western Reserve who shares administrative responsibilities with the coroner of the County, a pro-

Continued on page 206a

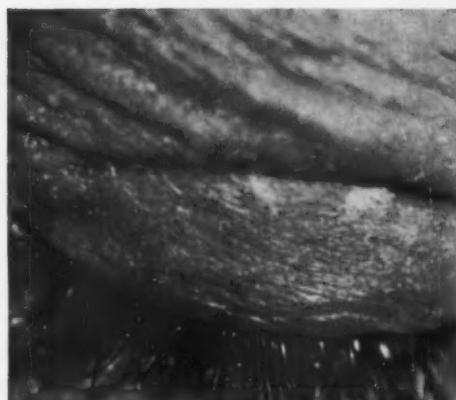
Rapid and prolonged response in allergic reactions...



• to drugs



• to soaps and detergents



• to cosmetics



• to pollen

The majority of your allergic patients achieve a rapid and prolonged response to 'Teldrin' *Spansule* capsule therapy. Five minutes after ingestion one-third of the medication is released for absorption. The remaining two-thirds is released over the next eight to ten hours to provide antihistaminic protection the rest of the day or night.

Teldrin® Spansule®

brand of chlorprophen-
pyridamine maleate

brand of sustained
release capsules

"... THE WORK HORSE OF THE [ANTIHISTAMINE] GROUP . . . EFFECTIVE . . . WELL
TOLERATED . . . ESPECIALLY CONVENIENT FOR THE BUSY PATIENT."

Rogers, H.L.: Postgrad. Med. 26:85 (July) 1959.

Smith Kline & French Laboratories, Philadelphia

NEWS AND NOTES—Continued

fessor of pathology in the Medical School and and a scientific investigator in the coroner's office and clinical instructor in criminology.

During its seven years of existence, the Center has sponsored 52 separate courses, and has had a total enrollment of 2,500. About one-fourth of the enrollment has been in the suburban police school. Physicians give part of the instruction at the schools, covering such topics as the administration of first aid, handling the mentally ill, obstetric emergencies, means for distinguishing between intoxication and diabetic coma, and many others. Psychiatrists lecture on delinquency in the adolescent.

The differing viewpoints held by the lawyer and doctor have long presented an obstacle to complete cooperation between the two in reaching the common goal of improved administration of justice. In bringing about an understanding of these differences between the two professions by an opportunity to hear and examine the other's opinion at the Center, a definite contribution to progress will have been made.



"I thought you were paying the rent?"

Emergency Medical Service Program in Philadelphia

The City of Philadelphia expects to launch an Emergency Medical Service Program under the supervision of the executive director of the Philadelphia General Hospital. The municipal hospital provides care of the indigent, but cannot handle the total emergency needs of the City. The new program would assure quality care for these persons. Between 25 and 30 hospitals in the City will be chosen to handle these cases on a contractual basis. The institutions will be selected according to their present handling of emergency cases, their adequate physical facilities, and standards of patient care. It is estimated that the annual cost of this service from the selected hospitals will be \$500,000 with an additional \$14,000 added to the Philadelphia General Hospital budget for the administration and control of the Program.

New Research Building at the University of Pennsylvania

Dedication ceremonies were held recently for the Alfred Newton Richards Medical Research Building of the University of Pennsylvania School of Medicine. The design of the structure has been designated a "significant architectural advance." Of the four main towers, one is used for all general equipment and services, while the others comprise laboratories—seven levels in each tower with each laboratory containing 45 square feet of space which may be arranged for the convenience of the user. Realizing that the problem of ventilation in laboratories is seldom satisfactorily solved, a special arrangement was worked out whereby outside clean air is not contaminated by air already within the buildings. The \$3,-000,000 structure will house the Department of Microbiology, the Harrison Department of Surgical Research and portions of the Department of Physiology and the Department of Public Health and Preventive Medicine.

Continued on page 208a

PROFESSIONAL COATS FOR PHYSICIANS

A Blouse style with fly-front concealed zipper. Snap fasteners at shoulder and collar. Polar striped white Dacron. Sizes 34-48. Price: \$8.95, plus 35c shipping costs.



A

B Soft tailored 2-button, single-breasted jacket in white Dacron Taffeta. Three patch pockets and attached pearl buttons. Sizes 34-48, regulars and longs. Price: \$9.75, plus 35c shipping costs.



B

C Slip-over shirt with belted back and convertible collar. Sizes: Small, Medium, Large, X-Large. Price each: In Sanforized White Twill, \$3.95; in Dacron-Pima Cotton, \$9.75. Add 35c shipping costs for each garment ordered.



C

D Laboratory coat with back slit for stride freedom and side vents for easy access to inner pockets. Sizes 32-48. Price each: In Sanforized White Twill, \$5.95; in white Orlon, \$13.95. Add 35c shipping costs for each garment ordered.



D

- 10% discount on orders for 6 or more

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Manhasset, New York

NEWS AND NOTES—Continued

A logical prescription for overweight patients
anorectic-atalectic

BA MADEX
meprobamate 400 mg., with d-amphetamine sulfate 5 mg., Tablets

meprobamate plus d-amphetamine... depresses appetite... elevates mood... eases tensions of dieting... without overstimulation, insomnia or barbiturate hangover.

Dosage: One tablet one-half to one hour before each meal.

Lederle



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Subscription price, \$12 per year.

MEDICAL TIMES OVERSEAS, INC.

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Dr. Edmond B. Flink

Dr. Edmond B. Flink, of Minneapolis, has been appointed Professor and Chairman of the Department of Medicine at West Virginia University. The Doctor was formerly Professor of Medicine at the University of Minnesota, the institution from which he received the degrees of M.D. and Ph.D. He also served as a visiting professor at Seoul (Korea) National University.

New Pediatrics Professor

Dr. Richard L. Day, who resigned to become Medical Director of the Children's Hospital, and Chairman of the Department of Pediatrics at the University of Pittsburgh School of Medicine, has been replaced at the Downstate Medical Center and Kings County Hospital Center in Brooklyn by Dr. Jonathan T. Lanman, formerly Associate Professor of Pediatrics at the New York University College of Medicine.

New Plan at Wayne State University

In keeping with the general trend in medical education today, Wayne State University has instituted a new program called the 2-4-2 plan. It is believed that the new plan will provide students with a broader liberal arts background as well as a more effective medical education. This program, which Wayne educators have spent five years in planning and executing, calls for two years in the College of Liberal Arts for completion of both liberal arts and pre-medical requirements; the next four years to be divided between the College of Liberal Arts and the College of Medicine. During this period, the medical student will have an integrated program of study leading to the bachelor's degree and completion of the basic medical sciences. The final two years will be spent in clinical training at the College of Medicine and its affiliated hospitals.

Concluded on page 210a

in arthritis and allied disorders

Butazolidin® Geigy

Proved by a Decade of Experience
Confirmed by 1700 Published Reports
Attested by World-Wide Usage

Since its anti-inflammatory properties were first noted in Geigy laboratories 10 years ago, time and experience have steadily fortified the position of Butazolidin as a leading nonhormonal anti-arthritis agent. Indicated in both chronic and acute forms of arthritis, Butazolidin is noted for its striking effectiveness in relieving pain, increasing mobility and halting joint changes.

Butazolidin®, brand of phenylbutazone:
Red, sugar-coated tablets of 100 mg.
Butazolidin® Alka: Orange and white capsules containing Butazolidin 100 mg.; dried aluminum hydroxide gel 100 mg.; magnesium trisilicate 150 mg.; homatropine methylbromide 1.25 mg.

Geigy, Ardsley, New York

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meprobamate 400 mg., with d-amphetamine sulfate 5 mg., Tablets

FOR THERAPY
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- d-amphetamine depresses appetite and elevates mood
- meprobamate eases tensions of dieting (yet without overstimulation, insomnia or barbiturate hangover).

Dosage: One tablet one-half to one hour before each meal.

A LOGICAL COMBINATION
IN
APPETITE CONTROL

Lederle

NEWS AND NOTES—Concluded

Sun Can Damage the Eye

Despite Dark Glasses

Smoked glass or dark glasses cannot protect the eye from the direct rays of the sun.

"There is unfortunately a widespread misunderstanding that dark glasses are sufficient to protect the eye when one looks directly at the sun," according to Dr. William W. Bolton, associate director, Department of Health Education, American Medical Association.

Writing in *Today's Health*, Dr. Bolton said that after each eclipse of the sun "a certain number of persons are observed to have permanent damage of the retina, with loss of central vision, even after using smoked or dark glasses."

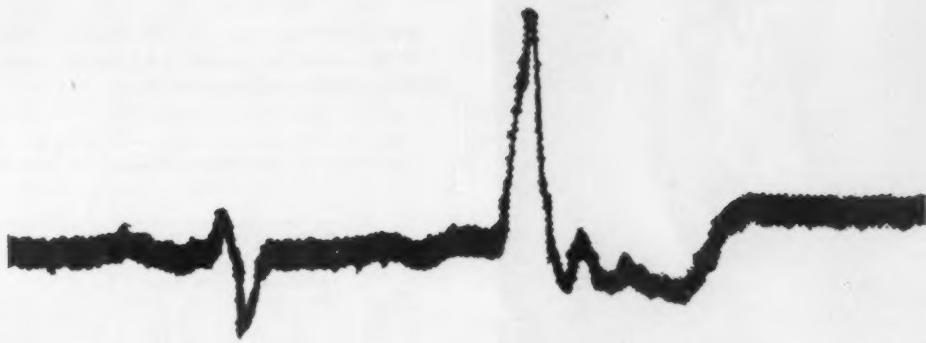
"Even when the sun is partially observed, its rays are still very intense," he said. "Dark glasses only screen against reflected glare that results as the sun's rays strike the earth."

Addition to St. Joseph's Hospital

With the addition of the John Gregory Murray Unit, the bed capacity of St. Joseph's Hospital reached 500. The new unit, completely air-conditioned, has special provision for cardiac surgery, twelve other operating rooms, and a suite for emergency surgery. St. Joseph's Hospital, founded 107 years ago, is the oldest hospital in Minnesota.

New Pathologist at University of Oregon Medical School

Dr. Warren C. Hunter, a faculty member at the University of Oregon Medical School for 36 years, will retire as Professor and Chairman of the Department of Pathology, and will be replaced by Dr. Jackson T. Crane, formerly Associate Professor of Pathology and Surgery at the University of California School of Medicine. Dr. Crane is currently conducting research on metabolic bone diseases, investigating human and animal dwarfism and other abnormalities of cartilage growth and metabolism.



for cardiac arrhythmias...obvious advantages

PRONESTYL® HYDROCHLORIDE

SQUIBB PROCAINE AMIDE HYDROCHLORIDE

Pronestyl offers obvious advantages over quinidine and procaine in the management of cardiac arrhythmias: "Procaine amide [Pronestyl] should be the drug of choice in arrhythmias of ventricular origin." 1—on oral administration, side effects are less marked than with quinidine—administered I.V., Pronestyl is safer than a corresponding I.V. dose of quinidine—administered I.M., Pronestyl acts faster than I.M. quinidine²—Pronestyl sometimes stops arrhythmias which have not responded to quinidine^{3,4}—Pronestyl may be used in patients sensitive to quinidine—more prolonged action, less toxicity, less hypotensive effect than procaine—no CNS stimulation such as procaine may produce.

Supply: For convenient oral administration: Capsules, 0.25 gm., in bottles of 100.

For I.M. and I.V. administration: Parenteral Solution, 100 mg. per cc., in vials of 10 cc.

References: 1. Zapata-Diaz, J., et al.: Am. Heart J. 43:854, 1952. 2. Modell, W.: In Drugs of Choice, C.V. Mosby Co., St. Louis, 1958, p. 454.
3. Kayden, H. J., et al.: Mod. Concepts Cardiovasc. Dis. 20:100, 1951. 4. Miller, H., et al.: J.A.M.A. 146:1004, 1951.

SQUIBB



Squibb Quality—the Priceless Ingredient

*PRONESTYL® IS A SQUIBB TRADEMARK



A Superb Gift

This imported decorator's piece makes an outstanding gift or prize that surely will be treasured by its recipient. Combining grace and a touch of humor, it will add a note of charm to a physician's office or home.

Styled and hand-painted by Italian artists, the glazed ceramic stands one foot high.

Price: \$19.75 each.

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MANHASSET, NEW YORK

DIAGNOSIS, PLEASE

(Answer from page 31a)

ACHALASIA

Notice the right paracardiac density paralleling the right cardiac border. This is the dilated esophagus. All similar cases should have esophageal studies.

WHO IS THIS DOCTOR?

(Answer from page 73a)

DAVID LIVINGSTONE

MEDIQUIZ

(Answers from page 79a)

1 (E), 2 (E), 3 (D), 4 (B), 5 (A), 6 (B),
7 (D), 8 (E), 9 (C), 10 (B), 11 (B),
12 (A), 13 (A), 14 (B), 15 (A).

WHAT'S YOUR VERDICT?

(Answer from page 47a)

The Supreme Court affirmed the judgment of the lower court, holding: "According to the evidence in this case there can be no certainty that there will be no adverse blood reaction even when the best methods known to medical science are used in the typing and matching of the blood. Upon the basis of that evidence, it cannot be said that the trial court was in error in adopting the view that death may have occurred without negligence."

Based on decision of
SUPREME COURT OF UTAH

CLINICAL REMISSION IN A "PROBLEM" ARTHRITIC

In disabling rheumatoid arthritis. A 62-year-old printer incapacitated for three years was started on DECADRON, 0.75 mg./day. Has lost no work-time since onset of therapy with DECADRON one year ago. Blood and urine analyses are normal, sedimentation rate dropped from 36 to 7. He is in clinical remission.*

New convenient b.i.d. alternate dosage schedule: the degree and extent of relief provided by DECADRON allows for b.i.d. maintenance dosage in many patients with so-called "chronic" conditions. Acute manifestations should first be brought under control with a t.i.d. or q.i.d. schedule.

Supplied: As 0.75 mg. and 0.5 mg. scored, pentagon-shaped tablets in bottles of 100. Also available as Injection DECADRON Phosphate. Additional information on DECADRON is available to physicians on request. DECADRON is a trademark of Merck & Co., Inc.

*From a clinical investigator's report to Merck Sharp & Dohme.

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gill





this is
PLEXONAL

(ACTUAL SIZE AND SHAPE)

*Optimum results are obtained by gradually increasing the dosage to the maximum the patient can tolerate without the appearance of drowsiness. The following procedure for dosage adjustment has proven highly successful:

Take one tablet 2 times per day for 2 days. On the third day increase the daily dosage by one tablet. Similarly increase the dose every third day thereafter, to the point of drowsiness.

For example, if one tablet 4 times a day produces an obvious sleepy feeling, and on three the patient is comfortable, then the proper dose will be three tablets per day.

a superior daytime relaxing agent

(NOT A TRANQUILIZER)

PLEXONAL®



Comparative clinical studies show that PLEXONAL is superior to meprobamate or barbiturates for daytime relaxation^{1,2}

"Plexonal was preferred (superior therapeutic effect) by 73.7 per cent of the patients, whereas 11.1 per cent preferred meprobamate, a ratio of 6.6 to 1.... 30.5 per cent noted adverse reactions to meprobamate as compared to 7 per cent in respect to Plexonal.... Plexonal gave better results than did any of the sedative or relaxing agents that have been available during our experience covering the previous 15 years."¹

As a daytime relaxant, "it is well suited especially for the treatment of hyperexcitability and anxiety."²

Indications: Anxiety, tension, apprehension, nervousness, irritability, restlessness, hyperexcitability.

Extremely well tolerated by geriatric patients who need mild sedation, as well as by depressed patients.

Dosage: One tablet 3 or 4 times a day is adequate for most patients. However, some require up to six tablets per day, whereas others respond adequately to as little as 1 tablet per day.²

Composition: Each tablet contains sodium diethylbarbiturate 45 mg., sodium phenylethylbarbiturate 15 mg., sodium isobutylallylbarbiturate 25 mg., scopolamine hydrobromide 0.08 mg., dihydroergotamine methanesulfonate 0.16 mg.

1. Scheifley, C. H.: Proc. Staff Meet. Mayo Clin. 34:408 (Aug. 19) 1959.
2. Kadish, A. H.: Clin. Med. 2:379 (March) 1955.



now—for
more comprehensive
control of

'pain & spasm'



INDICATIONS

HEAD: temporomandibular muscle spasm • **NECK:** acute torticollis, osteoarthritis of cervical spine with spasms of cervical muscles, whiplash injury • **TRUNK AND CHEST:** costochondritis, intercostal myositis, xiphodynia • **BACK:** acute and chronic lumbar strains and sprains, acute low back pain (unspecified), acute lumbar arthritis and traumatic injury, compression fracture, herniated intervertebral disc, post-disc syndrome, strained muscle(s) • **LUMBOGLUTEAL:** acute hip injury with muscle spasm, ankle sprain, arthritis (as of foot or knee), blow to shin followed by muscle spasm, bursitis, spasm or strain of muscle or muscle group, old fracture with recurrent spasm, Pellegrini-Stieda disease, tenoynovitis with associated pain and spasm.

*-pain due to
or associated with
-spasm of skeletal muscle*

a new muscle relaxant-analgesic

Robaxisal

ROBAXIN® WITH ASPIRIN

AHR

Many conditions, painful in themselves, often give rise to spasm of skeletal muscles. ROBAXISAL, the new dual acting muscle relaxant-analgesic, treats both the pain and the spasm with marked success. In clinical studies on 311 patients, 12 investigators reported satisfactory results in 86.5%. Each ROBAXISAL Tablet contains:

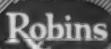
- A relaxant component—Robaxin®—widely recognized for its prompt, long-lasting relief of painful skeletal muscle spasm, with unusual freedom from undesired side effects. 300 mg.
Manufactured Robins 222 Pacific 277642
- An analgesic component—aspirin—which has added value as an anti-inflammatory and anti-rheumatic agent. 5 gr. (5 gr.) 325 mg.

INDICATIONS: ROBAXISAL is indicated when analgesic as well as relaxant action is desired in the treatment of skeletal muscle spasm and severe constrictive pain. Typical conditions are disorders of the back, whiplash and other traumatic injuries, myositis, and pain and spasm associated with arthritis.

SUPPLEMENT: ROBAXISAL Tablets (pink-and-white, laminated) in strengths of 100 and 500.

Also available: ROBAXIN Injectable, 1.0 Gm. in 10-cc. ampul; ROBAXIN Tablets, 0.3 Gm. (either pink or white bottles of 50 and 100).

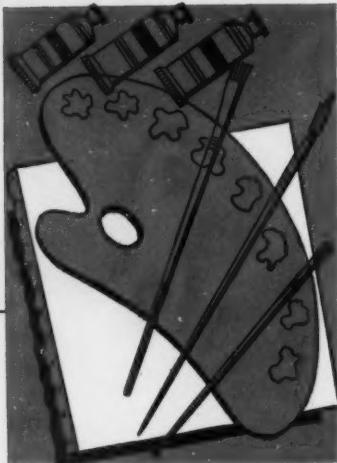
¹Clinical reports in files of A. H. Robins Co., Inc., Street 1, Avenel, New Jersey; P. Butler, New York, N. Y.; P. Decker, Richmond, Va.; C. Freeman, Jr., Augusta, Ga.; R. B. Gorham, West York, N. Y.; J. E. Hirschman, Schenectady, N. Y.; L. Katz, New York, N. Y.; Dr. John C. Chicago Heights, Ill.; H. Nachman, Richmond, Va.; A. Pendleton, Los Angeles, Cal.; E. Roberts, Rosedale, N. Y.; E. M. Stoen, Portland, Ore.



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Covering the Times

Like a full color reproduction of any of our cover paintings? They're printed on wide margin paper, ready for framing. Send 50c for a single print or \$2.50 for six (of a single cover or assorted).

Stevan Dohanos, who painted this month's cover, is now somewhere east of Suez. That's a guess, of course. Last we heard he was in Hawaii, taking part in the ceremonies attending the issuing of the stamp which commemorates the admittance of our 50th state. As you may have read in these columns, Dohanos designed the 50-star flag stamp. Following the Hawaiian festivities, the artist planned to go around the world with sketch pad in hand.

» » »

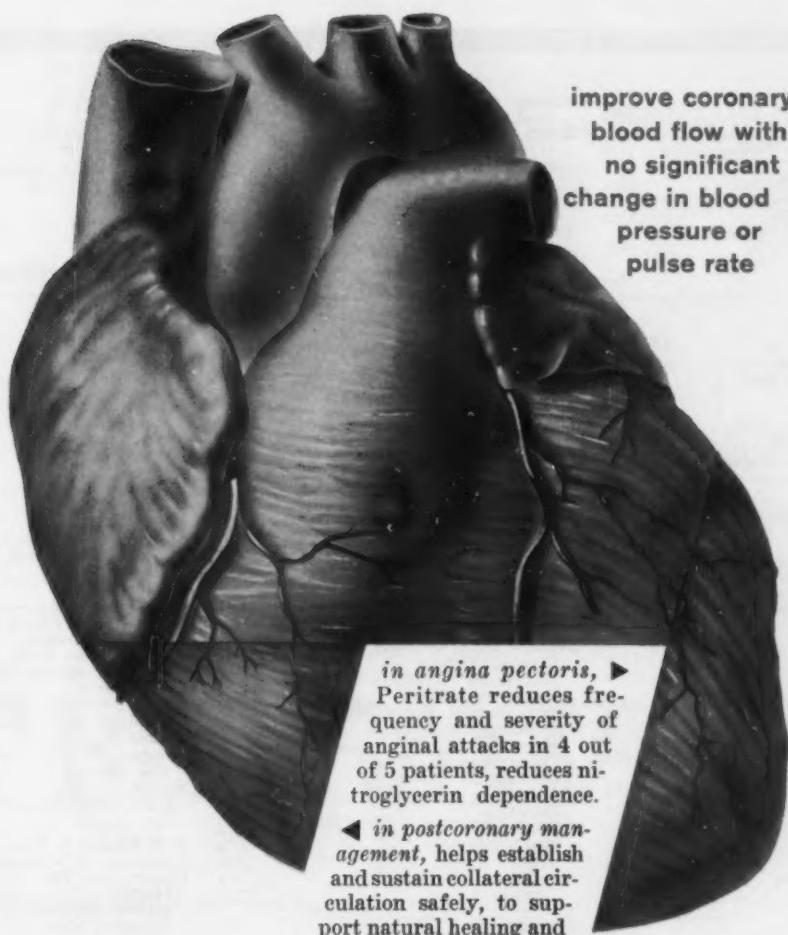
Last month in this department we ran a picture of artist Melbourne Brindle's 1915 Crane-Simplex. At that time we were completely unaware of what a rare vehicle this is. Enlightenment came as a result of reading the August

issue of *True* magazine which contained a couple of Brindle's portraits of antique cars, the Crane-Simplex being one of them. Its portrait, as it appeared in *True*, is reproduced here.

Text accompanying the illustration gave these facts about the auto: It was designed for exhibit at the 1916 San Francisco Auto Salon and is the only one of its kind. The designer adhered to a marine motif throughout. All wood is teak, including the coaming around the top of the body, backs of the front seats, running boards, tool boxes, and air intakes in the cowl resemble a ship's ventilators. To preserve the smooth lines of the body, the car was made without front doors. A six-cylinder engine can propel the car at better than 70 miles an hour.

And the cost of this fancy car?
Only \$33,000.





improve coronary
blood flow with
no significant
change in blood
pressure or
pulse rate

basic in
coronary
artery
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brand of pentaerythritol tetranitrate

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1 tablet on arising and 1 tablet 12 hours later.

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AGAINST 4 DISEASES:
Poliomyelitis-Diphtheria-Pertussis-Tetanus

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TETRAVAX.

DIPHTHERIA AND TETANUS TOXOIDS WITH PERTUSSIS AND POLIOMYELITIS VACCINES

now you can immunize against more diseases...with fewer injections

Dose: 1 cc.

Supplied: 9 cc. vials in clear plastic cartons. Package circular and material in vial can be examined without damaging carton. Expiration date is on vial for checking even if carton is discarded.

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a Nephéralin tablet for "air in a hurry"
...and calm...and quiet breathing

For the ambulant asthmatic you can prescribe "air in a hurry" with NÉPHÉRALIN®, a tablet that relieves asthma with nebulizer speed and prevents further attack for hours. Placed under the tongue, the NÉPHÉRALIN tablet quickly releases 10 mg. of isoproterenol HCl, the potent homologue of epinephrine, for immediate opening of the airway. Swallowed, the NÉPHÉRALIN tablet provides theophylline (2 gr.), ephedrine ($\frac{1}{4}$ gr.) and phenobarbital ($\frac{1}{8}$ gr.), for sustained protection from asthmatic seizure. Bottles of 20 and 100 tablets. For children: NÉPHÉRALIN Pediatric.

Thos. Leeming & Co. Inc. New York 17, N.Y.

for "air in a hurry" **Nephéralin®**

*Your surgical convalescent feels better
because he is better with*

Durabolin®

(Nandrolone phenpropionate injection, ORGANON)

for safe potent anabolic stimulation

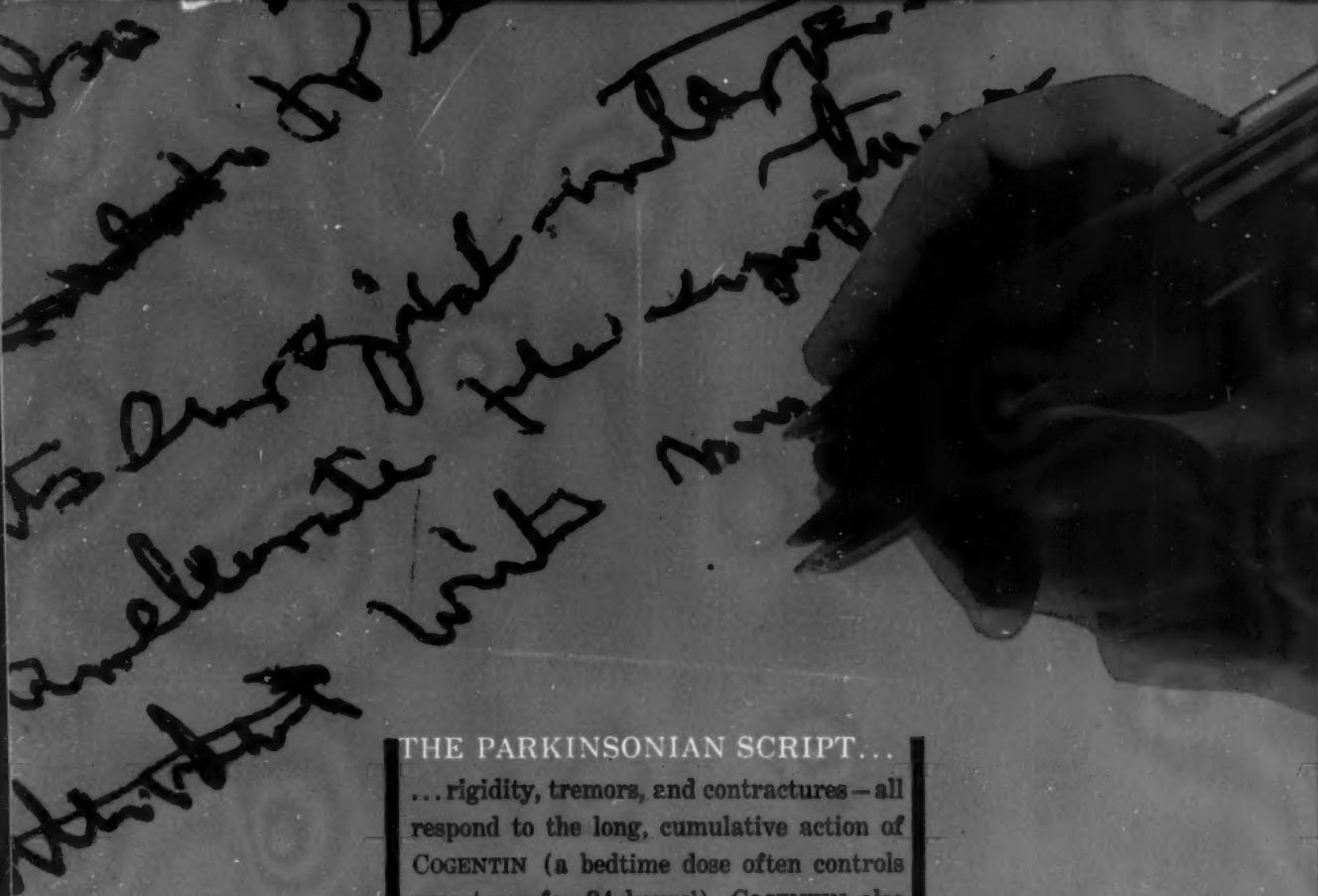
- + to maintain positive nitrogen balance
- + to promote rapid wound healing
- + to restore appetite, strength, vitality
- + to shorten convalescence, save nursing time
- + to reduce the cost of recovery

1 cc. once each week



Organon

ORGANON INC., W. Orange, N. J.



THE PARKINSONIAN SCRIPT...

...rigidity, tremors, and contractures — all respond to the long, cumulative action of COGENTIN (a bedtime dose often controls symptoms for 24 hours¹). COGENTIN also exerts "a highly selective action against... fixed facies, dysphonia, dysphagia, faulty posture, muscle cramps, and 'freezing' of the legs."² Parkinsonism due to tranquilizer therapy "is easily alleviated by COGENTIN,"³ even after other drugs fail.⁴

Dosage: Dosage must be individualized. In arteriosclerotic, idiopathic, or postencephalic parkinsonism, the usual dosage is 1 to 2 mg. daily, with a range of 0.5 to 8 mg. daily. In parkinsonism induced by phenothiazines or rauwolfa compounds, the recommended dosage is 1 to 4 mg. once or twice a day.

Additional information on COGENTIN is available to physicians on request.

Now available: Injection COGENTIN, 1 mg. per cc., ampule of 2 cc. Also available: Tablets COGENTIN (quarterscored), 2 mg., bottles of 100 and 1000.

References: 1. A.M.A. Council on Drugs: New and Non-official Drugs 1959, Philadelphia, J. B. Lippincott Company, 1959, p. 282. 2. Doshay, L. J.: J.A.M.A. 163:1031, 1966. 3. Ayd, F. J.: Clin. Med. 6:387, 1959. 4. May, R. H.: Am. J. Psychiat. 114:860, 1959.

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COGENTIN

Methanesulfonate (Senzilopine Methanesulfonate)

